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ABSTRACT

The conclusion of this study of 79 developing countries was that forgiving some of the indebtedness of developing countries may stimulate mutually beneficial trade among all nations. the international debt-repayment problems of Poland in 1981 and was followed by problems in Mexico, Brazil, and Argentina in 1982. This crisis has proven to be a more serious threat to the world economy than had been anticipated and has resulted in an intractable constraint on international trade and development. In coping with repayment difficulties, developing countries reduced domestic expenditures, thereby reducing investment in industries that could have produced export merchandise. Developing countries also reduced imports, thus diminishing export markets for developed countries. This situation caused incomes in developed countries to stagnate, further depressing demand for imported goods and services of developing countries. Thus, the world marketplace shrank. United States agriculture has been particularly hurt by the debt crisis. The rescheduling of payments only superficially improved the situation. Developed countries and their lending institutions may find that the benefits of forgiving some portion of the debts outweigh the costs that will result. Charts and graphs are included to illustrate world trade and world debt. Appendixes include charts categorizing countries according to income and debt. (SM)

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Foreign
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The World Debt Crisis and Its Resolution

Mathew Shane
David Stallings

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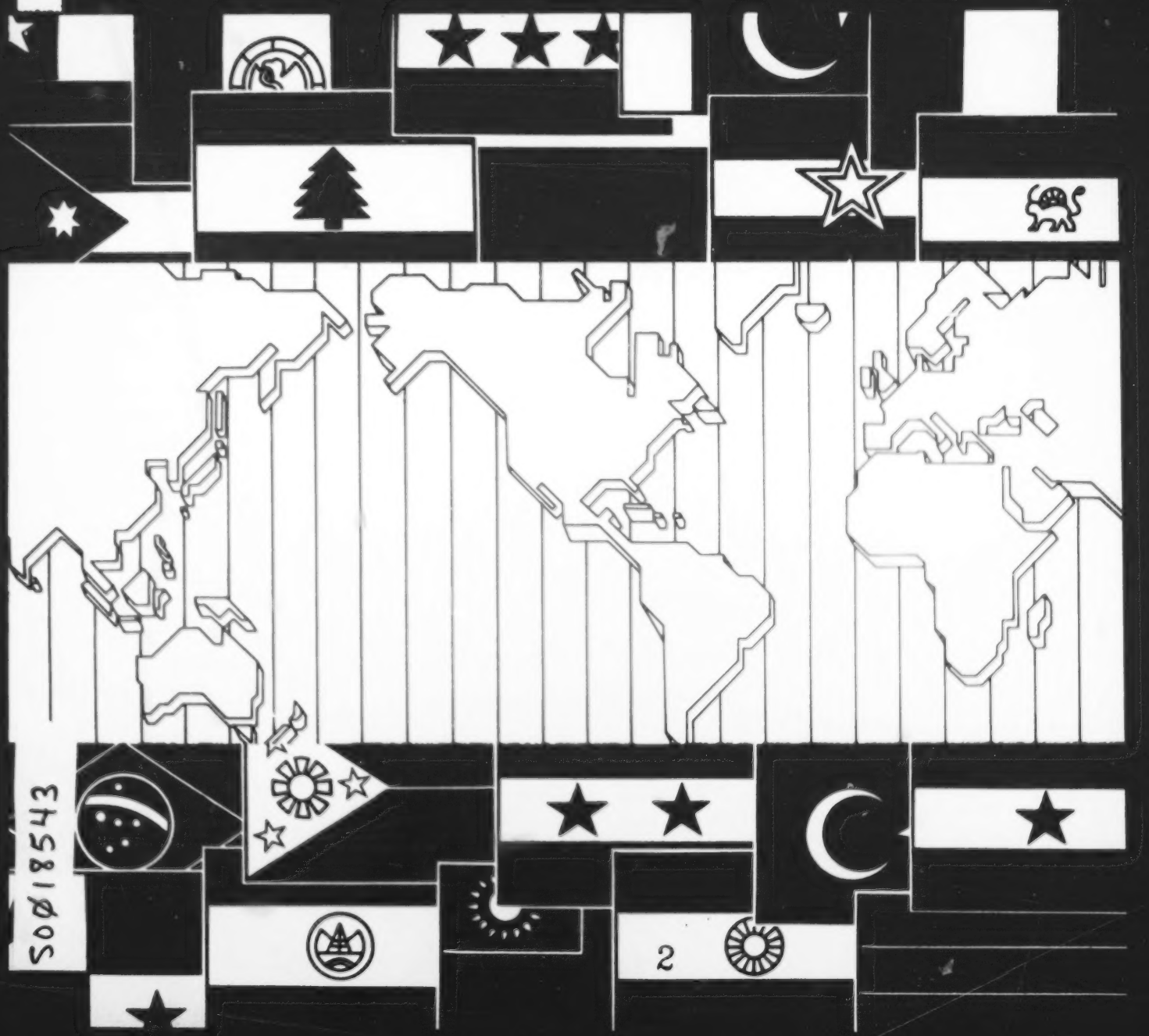

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THE WORLD DEBT CRISIS AND ITS RESOLUTION, by Mathew Shane and David Stallings, Agriculture and Trade Analysis Division, Economic Research Service, U.S. Department of Agriculture. Foreign Agricultural Economic Report No. 231.

ABSTRACT

Forgiving some of the indebtedness of developing countries may stimulate mutually beneficial trade among all nations. Many developing countries have reduced imports to cope with repayment difficulties, a policy which reduced per capita income and often limited domestic industrial investment. Reduced world trade has limited growth in developed countries, further constraining export markets. High interest rates, declining commodity prices, and currency devaluations have thrust the greatest burden of the world economic problems on debt-dependent developing countries. Increasingly frequent debt rescheduling has lengthened the crisis for many countries, often making repayment even more burdensome. This report studies 79 developing countries and suggests ways to reduce their debt and improve the global economy.

Keywords: International debt, trade, agricultural trade, monetary policy, financial constraints, monetary transmission, interest rates, exchange rates.

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SUMMARY

Forgiving some of the indebtedness of developing countries may stimulate mutually beneficial trade among all nations. Many developing countries have reduced imports to cope with repayment difficulties, a policy which reduced per capita income and often limited domestic industrial investment. Reduced world trade has limited growth in developed countries, further constraining export markets. High interest rates, declining commodity prices, and currency devaluations have thrust the greatest burden of the world economic problems on debt-dependent developing countries. Increasingly frequent debt rescheduling has lengthened the crisis for many countries, often making repayment even more burdensome.

This report studies 79 developing countries and their debts, imports, and exports and suggests ways to reduce their debt and improve the global economy.

As debt repayment problems mounted in the early 1980's, many lenders cut off new credit to the developing countries. Many of the countries reduced imports and domestic expenditures as they tried to meet principal and interest payments on their debts. Such policies depressed per capita income and investments in industries which could have produced export merchandise. Developing countries instituted adjustment policies for coping with curtailed levels of available world credit by reducing imports, among other things, thus diminishing export markets for developed countries. This development caused incomes in the developed countries to stagnate, further depressing demand for imported goods and services of developing countries. Thus, the world marketplace shrank, further complicating the economic problems of developing countries. U.S. agriculture has been particularly hurt by the debt crisis. Many countries that had been major markets for commodities from this country have been unable to purchase U.S. food products because of the higher prices reflecting the strong U.S. dollar and because of their diminished foreign exchange earnings.

Debt rescheduling has become increasingly commonplace since 1982. Such a move, however, only superficially improves the immediate payment structure. The long-term effect of rescheduling will probably be to make the total cost of the debt even more expensive and to make overcoming the debt problem even more difficult. Developed countries and their lending institutions may find that the benefits of forgiving some portion of the debts outweigh the costs that will result. Forgiving some of the indebtedness of the developing countries may stimulate the world marketplace leading to mutually beneficial trade among nations.

The World Debt Crisis and Its Resolution

Mathew Shane
David Stallings*

INTRODUCTION

The debt crisis, which began with the international debt-repayment problems of Poland in 1981 followed by those in Mexico, Brazil, and Argentina in 1982, has proven to be a far more serious threat to the world economy than anyone anticipated (21).[1] The problem that was initially perceived as a threat to the stability of the international financial system has turned out to be a more binding and intractable constraint on international trade and development.

Using 1970-85 data from 79 developing countries, we evaluated the course of events which led to the debt crisis, the adjustments which have taken place since 1982, and the prospects for renewed growth under the existing debt resolution strategy.

Some observers, in the early days of the crisis, assumed that a 3-year adjustment period would be sufficient to overcome any short-term disequilibrium in the world payment system (11, 21). This adjustment period would soon be followed, they argued, by renewed growth based on revised and strengthened trade alignments. To date, however, no evidence of renewed sustainable growth in the problem debtor countries has surfaced. Furthermore, the constraints on the most debt-affected countries may very well be retarding the entire world growth and trade system.

In the aftermath of the debt crisis, many lenders significantly reduced the amount of credit available to developing countries. This withdrawal continued and accelerated into 1985-86. Developing countries received some $57 billion in credit in 1978. Credit availability declined by almost $100 billion per year during 1982-85, so that repayments exceeded new lending by more than $30 billion per year.[2] Furthermore, this imbalance has led to steep declines in gross capital formation and a dramatic falloff in per capita income growth.

The adjustment to the debt crisis, therefore, did not lead to renewed growth in trade and development but instead to declining trade worldwide and stagnating per capita incomes. The remedy for the debt crisis may have lead to a situation in which the

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*The authors are economists in the Economic Research Service, U.S. Department of Agriculture.
[1]Underscored numbers in parentheses identify literature cited in the references at the end of this report.
[2]The technical term for the difference between new borrowing and total repayments is "net transfer." However, "net credit flow" seems a more apt description.

global effects of the cure are actually worse than the failure of some countries to meet their international debt servicing obligations. Dramatically different solutions for overcoming the debt crisis (such as forgiving some portion of the debt incurred by the most severely indebted countries) will help place developing countries on a renewed growth path and may well be worth considering.

We found that the negative effects of the debt crisis on trade and development are greater than the potential costs of forgiving some portion of some countries' international debt. The cumulative effect of changes in policy for a set of countries which individually are relatively small parts of the world trading system can add up to a total effect on world trade that is quite substantial. Until 1983, the middle-income debtor countries were the fastest growing segment of the global economy.

THE ANTECEDENTS

The current world debt problem had its roots in the rapid growth and development of the 1960's and early 1970's when credit was readily available and inexpensive. That long period of sustained world growth created excess demands for natural resources. That excess demand for resources, most notably petroleum, provided the conditions under which the Organization of Petroleum Exporting Countries (OPEC) could be formed and become an effective force for monopolizing world petroleum trade.

The fourfold increase in petroleum prices initiated by OPEC in 1973-74 substantially shocked the world economy. The principal shortrun effect was to create for most trading countries a balance-of-trade disequilibrium. The oil exporting countries, particularly the high-income exporting countries, generated significant trade surpluses. At the same time the oil importing countries generated balance-of-payment deficits. The longer term effect of the oil price increase was significant debt accumulation by developing countries, setting the stage for the current world debt problem.

The developed countries employed easy monetary policies both before and after the first oil shock, permitting continued economic growth in developing countries. The change in trade flows and expansionary monetary policies in the member nations of the Organization for Economic Cooperation and Development (OECD) generated large amounts of money previously unavailable to the international financial system. International bankers recycled this liquidity in the form of "petrodollar" deposits by beginning a massive lending program focused primarily on middle-income developing countries. These bankers anticipated high returns on investments and assumed that a country guarantee was adequate provision against repayment defaults. The bankers did not ask if the funds were being invested in such a way that a stream of foreign exchange earnings would be forthcoming to repay the loans.

The world economy weathered the first oil crisis without much difficulty. Initial debt levels were low enough that accumulation did not overly burden the world payments system. Furthermore, the infusion of large amounts of international capital into the world economy generated an international expansion led by export growth. For all non-OPEC developing countries, the total dollar value of exports was 2.5 times greater in 1980 than in 1975. Furthermore, annual real growth in gross domestic product (GDP) for all developing countries averaged 5 percent during this period.

The oil price rise of 1973-74 set the stage for the large debt accumulation, and the second oil shock of 1979-80 set the stage for the world recession of 1980-83. The latter petroleum price increase was more significant than the first because of the large debt that had accumulated and the far different policy responses of the industrial nations.

The response to the 1979-80 increase was for the major industrial countries to simultaneously restrict available credit.

The resource-driven inflation that was initiated by the 1973-74 oil price increase proved unacceptable to the industrial countries. The rapid and uncontrolled increases in resource costs were significantly reducing manufacturing profits. Only traditional measures could deal with the anticipated inflation.[3] The sudden lowering of monetary growth sharply slowed the world economy, raised real interest rates, and made the debt a burden. The effect of the policy responses of the developed countries to the second oil shock triggered the current repayment problems.

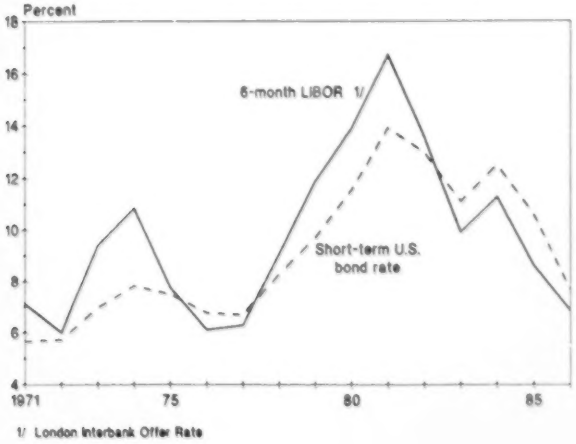
THE MACROECONOMIC POLICY ENVIRONMENT

If the oil price shocks of the 1970's led to changes in the monetary policies of the industrial countries, the growing world integration of capital markets transmitted the changes from lenders to borrowers and magnified the growth of international credit availability.

When exchange rates are flexible, monetary policies tend to initially affect the domestic economy by changing interest and exchange rates. Expansionary monetary policies drive domestic interest rates below international rates and thus create external incentives for domestic money holders to invest overseas, as happened in the United States during the 1970's.

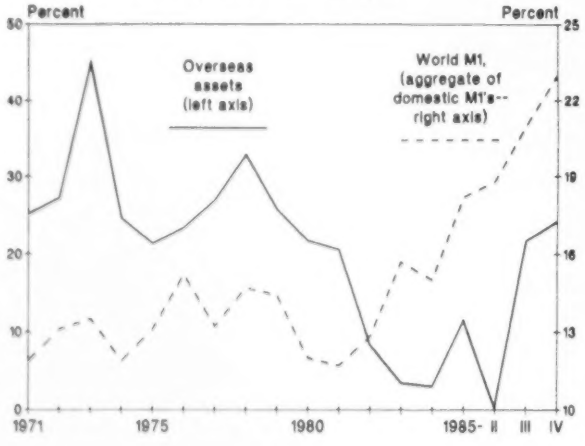
Short-term interest rates on dollar-denominated deposits in London were consistently above available rates in the United States (fig. 1). As a result, the growth rate of world overseas assets and liabilities (about 80 percent of which were in U.S. dollars) was significantly higher than that of U.S. M1 (the total of all U.S. currency and all checking deposits) during the 1970's and lower during the 1980's.[4]

Figure 1
U.S. domestic and overseas interest rates



1/ London Interbank Offer Rate

Figure 2
World M1 vs. overseas bank assets



[3]Prices for all raw materials, not only oil, generally increased during 1973-81. Although other resources did not, in general, increase in value as drastically as did oil, their increases were nonetheless dramatic. Examples, for 1972-80, include a quadrupling of the dollar prices of bauxite and rubber, a tripling of prices for aluminum and coffee, and a doubling of prices for nickel, copper, and manganese (20).

[4]The average growth rate of U.S. M1 was 6.7 percent during 1971-81, but 8.2 percent over the next 5 years.

Overseas bank assets are a much more effective measure of world liquidity than the simple total of national money stocks (fig. 2). First, such assets are the base used for much of world trade and financial flows. Second, this measure of money, in the context of the international economy, better explains the essential results of a worldwide monetary shock.[5]

Movements in Overseas Bank Assets

Overseas bank assets grew rapidly and continuously through the 1970's, increasing at an average annual rate exceeding 27 percent between 1973 and 1981 (fig. 2). However, the increase declined abruptly to less than 8 percent in 1982, followed by 2 years of less than 5-percent growth. The slowdown matched the decline in the rate of debt accumulation by the developing world (fig. 3). Only in the last two quarters of 1985 and through 1986 did world liquidity expand in a manner similar to the percentage increases observed in the 1970's.

Several factors seem to dominate the slowdown in world money growth. First, deregulation of the U.S. domestic banking sector removed one of the chief incentives for overseas deposits by U.S. investors and U.S.-owned international banks. Second, the balance-of-payments adjustments to debt constraints reduced overall liquidity. Third, the fall in income in the developing countries led to a decline in world trade and lessened the demand for money for international transactions. Finally, the domestic money demand function in the United States significantly shifted in 1981-82, sharply increasing the aggregate demand for money.[6] The increased desire to hold money in the United States would reduce the supply of dollars (the chief component of overseas bank assets) formerly available to the world trading community.

Figure 3
Growth in debt matches growth in world money

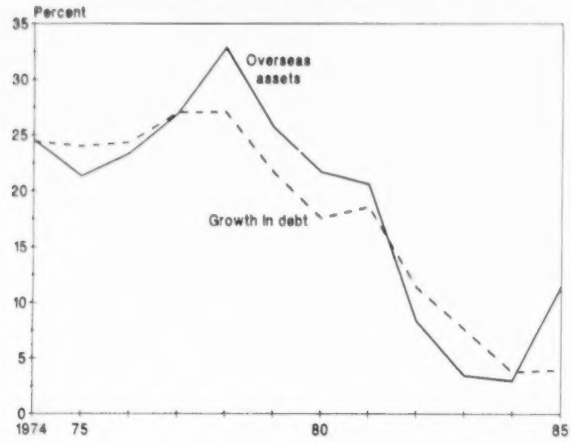
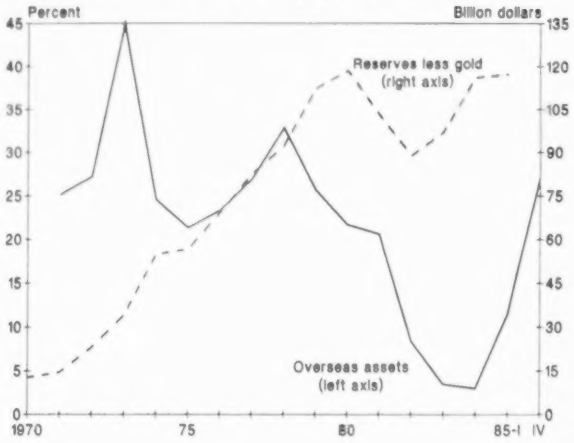


Figure 4
Reserves decline as money growth reduced



[5]The growth rates of world M1 (fig. 2), industrial country M1, and all countries' M1 bear little relationship to the growth rate in overseas bank assets, most notably between 1981 and 1985. If one looked at U.S., industrial countries', and all countries' M1 between 1981 and 1985 the only conclusion would have been that money was more readily available during that time, and that the 1970's were noted for restraint.

[6]Several reasons have been suggested, but the most plausible explanation is that increased wealth from Government bond issues was followed by a 3-year growth market in stocks. This situation would also be complemented by increased retained earnings by the corporate sector in response to higher real borrowing rates during the period. The shift is reflected in the downward movement in income velocity between 1980 and 1983 estimated as M2 (M1 + savings deposits without checking privileges + time deposits of less than $100,000) divided by gross national product (GNP) (7). The 3-year decline is unprecedented for the post-World War II period.

The key in examining the monetary aspects of the debt crisis comes in considering the transmission mechanism, by which the integration of world capital markets (accompanied by the growth in offshore banking centers) significantly exaggerated the incidence of debt accumulation.

The Transmission Mechanism

Although the major developed countries moved to a flexible exchange rate system in 1973, the developing countries have, for the most part, maintained fixed exchange rate regimes aligned with major currencies. Because these countries essentially respond to changes in world monetary conditions, we can analyze their reactions to changes in the growth of offshore bank liabilities. An increase in offshore money will, by depressing offshore interest rates, lead to capital inflows, until domestic and overseas real interest rates equalize. Foreign exchange reserves will increase, and the domestic money stock will rise as foreign currency is traded for local currency.

However, many developing countries chose not to allow domestic money to rise (or fall) in the same proportion as world money. This sterilization would result in excess reserve accumulation and price distortions between domestic and traded goods and lead to unbalanced interest rates.[7] However, domestic real rates of return would remain higher than those prevailing in world markets, and real exchange rates would appreciate.[8] Debt accumulation under these circumstances is certainly rational: borrow at low rates, and repay with earnings that outpace interest due. The willing financing of current account deficits was not viewed as a disequilibrium phenomenon.

The rapid increase in world money during the 1970's not surprisingly resulted in rapid debt accumulation. The situation changed drastically, however, when the easy money times of the 1970's were abruptly transformed into the much different international financial environment of the 1980's.

The money shock of the early 1980's produced a dramatic reversal in the direction of the real interest rate advantage. The oversterilization of reserve outflows suddenly resulted in more rapid inflation. Real depreciation was the implicit policy response. Lower domestic returns now had to support the higher real repayment schedules contracted in the early 1980's. Loans assumed at variable rates would necessarily prove particularly difficult to service. Those countries that undertook monetary sterilization found real repayments growing faster than real income.

External reserves, real interest rates, trade flows, and terms of trade all reflect the expected outcome of the sterilization policies followed by the most severely affected debtor nations.

Reserve Flows

The 1970's saw the dollar value of all reserves other than gold for the 79 countries rise at annual rates exceeding 20 percent (fig. 4), before plummeting during 1980-83. Reserves did not return to the level of 1979 until 1984. The reserve buildup during 1984 may have acted as an additional constraint to the adjustment of the most debt-affected countries

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[7] "Sterilization" is a process by which the central monetary authority (the Federal Reserve in the United States) takes action to counter otherwise automatic changes in the domestic money stock as a result of efforts to maintain a fixed exchange rate. A currency outflow that would result from a balance-of-payments deficit would, in the United States, be offset by an open market purchase of Government securities, leaving the domestic money stock unchanged.

[8] This situation could occur when the rate of growth in domestic money exceeded that of reserve accumulation. The real appreciation would then be the result of a domestic rate of return that is higher than the "world" rate.

by diverting resources that could have been used to repay debt or to purchase needed imports.[9]

Sub-Saharan Africa remains in the most precarious position (fig. 5), with total reserves at the end of 1985 barely one-third the level of 1980. Other categories whose reserve positions have not yet returned to the levels of 1980 are South Asia, Latin America, North Africa and the Middle East, low- and middle-income countries, oil exporters, major borrowers, and debt-affected major borrowers. Southeast Asia and Northeast Asia have accumulated reserves over the period. The domination of the Asian countries in the major market group also reflects their small increase in reserves over the period. All categories (except North Africa and the Middle East) substantially increased their reserves during 1984.

The change in reserves mirrored movements in the current account balance until 1980, when the sudden increase in current account deficits reflected a sharp decrease in reserves (fig. 6). The movement in reserves is, in fact, more closely related to changes in world liquidity. The money shocks in 1981-83 forced a drawdown in foreign exchange. The exceptions are the countries of Northeast Asia, where reserves have accumulated since 1979, regardless of the external position. Current account surpluses plus reserve accumulation place this region in particularly good position for adjustment to any future external shock.

Reserves/imports and reserves/exports ratios also altered significantly from 1973-80 to 1981-85. The former period had reserves/exports ratios for all countries at 27-31 percent (fig. 7). The average for the 1980's, to date, is below 20 percent. Northeast Asia is again the exception; its ratio has increased during the 1980's (fig. 8). The Latin American nations showed an especially sharp decline in the reserves/imports ratio between 1979 and 1982, before the slight rebuilding in 1983 and 1984. The rise in the reserves/imports ratios in 1983/84 also partially reflects declining imports.

Changes in Interest Rates

Market interest rates have grown in importance in loan repayments, particularly since 1978-79. Loans extended at variable interest rates, with premiums at fixed points above the U.S. prime rate or the London Interbank Offered Rate (LIBOR), became popular during the late 1970's.

Real interest rates incorporating price changes provide a measure of the current opportunity cost of debt repayment. The U.S. real interest rate is typically derived by subtracting current inflation (or some series of recent measures that reflect expected inflation) from nominal interest rates. The appropriate measure for debtor countries is the interest rate adjusted for changes in export prices. If export prices rise faster than contracted interest rates, the real rate is negative.

The effect of the rapid increase in money during the 1970's is clearly seen when compared with the real interest rates faced by the developing countries. That decade was dominated by price increases far exceeding nominal interest rates (fig. 9). The lowest real interest rates were those experienced by the oil exporters and the Middle East and North Africa countries. The nations of Sub-Saharan Africa faced the least favorable situation.

This situation is fully in keeping with the transmission mechanism described above. Creditors received the benefit of higher nominal returns in their own currencies, and

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[9]One could maintain, however, that reserves were increased to improve creditworthiness.

Figure 5

Reserves in selected reserve - loss countries

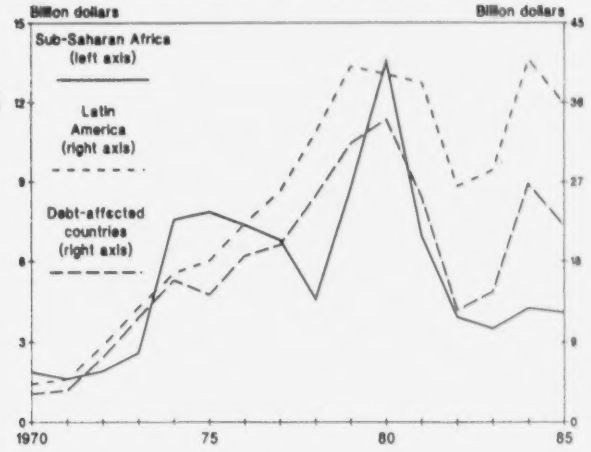


Figure 6

Reserves and current account balances:
All 79 countries

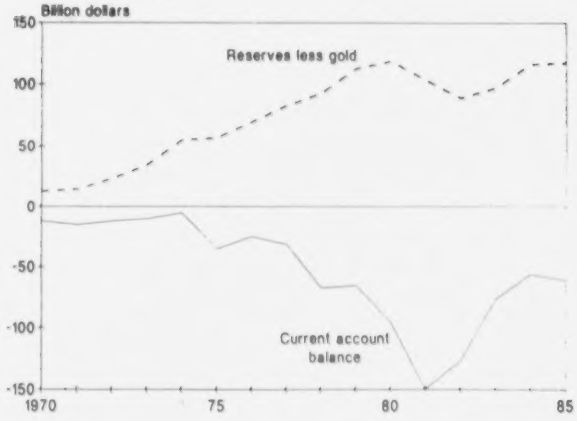


Figure 7

Reserve/import and reserve/export ratios:
All 79 countries

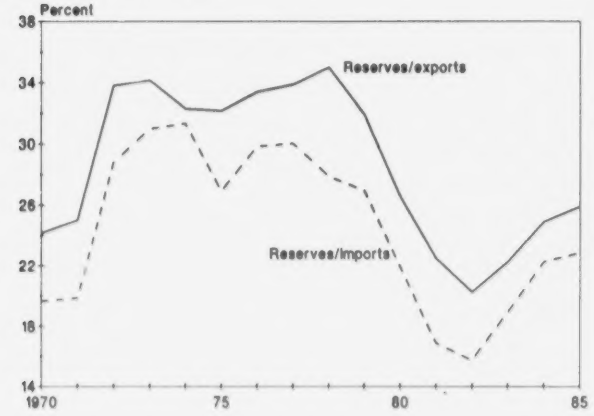


Figure 8

Reserve/import ratios:
Northeast Asia and Latin America

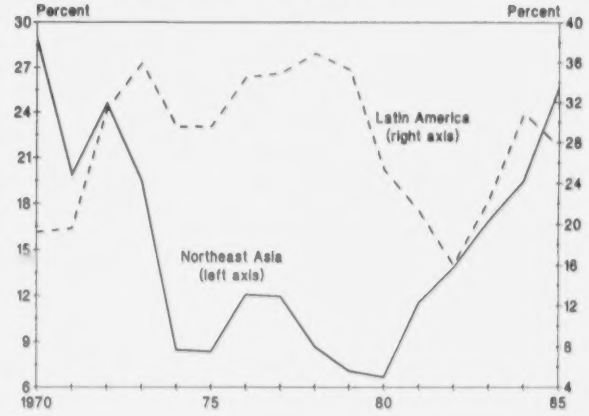
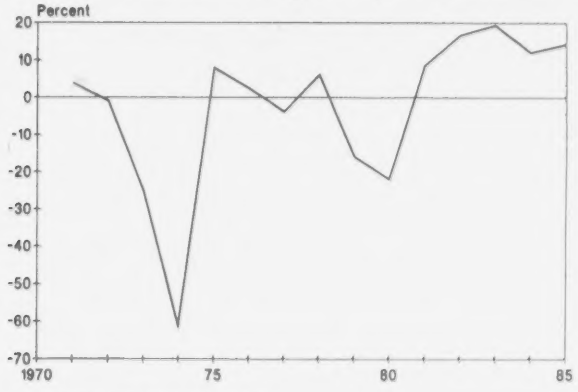


Figure 9

Real interest rate, all 79 countries:
LIBOR 6-month less change in export unit values 1/



1/ LIBOR = London Interbank Offer Rate

debtors were able to capitalize negative external real rates into domestic investment opportunities. Moreover, even an investment which yielded negative real returns at home could have been higher than the negative repayment rates and, when viewed externally, still be relatively profitable.

The situation of the 1970's quickly reversed itself in the 1980's. Nominal long- and short-term interest rates on dollar loans rose sharply beginning in 1978 as rising inflation began to add premiums to the cost of borrowing. Not until 1981, however, did price increases fall below interest rates, and the real rate increased sharply. Despite the decline in short-term rates in 1983-85, real interest rates facing all developing countries remained above 10 percent and were higher in 1985 than in 1984 for 13 of 15 country groupings, the exceptions being Yugoslavia and North Africa and the Middle East.

The highest real interest rates are faced by Latin America, Southeast Asia, and the debt-affected major borrowers. None of the country groupings have real "long-term" repayment rates below 10 percent.

Exchange Rate Movements

The real depreciation of the U.S. dollar against the aggregate of currencies during 1972-78 has been completely reversed during the 1980's (fig. 10). In real terms, the dollar has risen by more than 50 percent against the currencies of the 79 countries in our study. In 1985, the U.S. dollar was at its highest level, in real terms, since the collapse of the Bretton Woods system in 1973.[10]

The currencies of South Asia have been continually devalued since 1974, while those of Northeast Asia have declined by 50 percent since 1979. Latin American currencies were devalued some 23 percent in 1982 alone and by 45 percent since 1981. Major U.S. agricultural markets have continued to allow their currencies to depreciate at an accelerating rate since 1979 (fig. 11).

Exchange rates are used as policy instruments by most developing countries. Only a few of the currencies of the 79 countries we studied have their values determined in free markets (for example, the Dominican Republic's peso and Costa Rica's colon now have

Figure 10
Real exchange rate, all 79 countries, deflated by CPI's

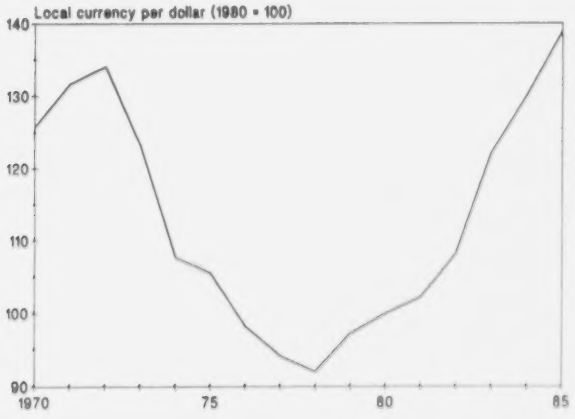
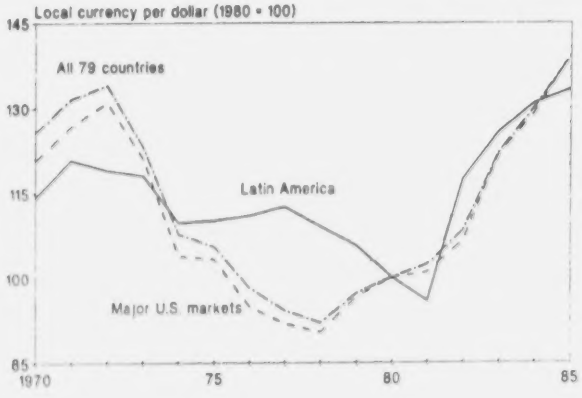


Figure 11
Real exchange rate, all 79 countries, Latin America, and major U.S. markets, deflated by CPI's



[10]The strength of the dollar has reversed somewhat since 1985, but mostly against the currencies of OECD countries. The dollar has actually appreciated against the debtor countries since 1985.

their values determined by domestic banks). Most adjustments are at infrequent intervals and tend to be doubly disruptive when anticipated. Reserves, for example, may be depleted when individuals expect a devaluation, or foreign exchange may be rationed. Depreciation occurs when financing is unavailable to cover current account deficits, repayments, and reserve accumulation. In 1982, credit flows declined as world liquidity contracted, reserves began to disappear, and developing countries initiated significant devaluations.

The severity and suddenness with which Latin America and the other debt-affected nations devalued their currencies dramatically demonstrates the seriousness and sharpness of the shift in the international monetary environment. Domestic adjustments, particularly in accelerating rates of inflation, were severe. The price for overvaluation was reduced imports of goods and services that contributed to economic growth. After subjecting their economies to sudden Consumer Price Index (CPI) increases in the 1980's, both Brazil and Argentina have changed currencies. Brazil fixed its exchange rate, temporarily at least, at 13.8 cruzados to the dollar and vowed to follow passive monetary policies rather than sterilization. Pressure on net export earnings have forced significant real devaluations, however, beginning in August 1986.

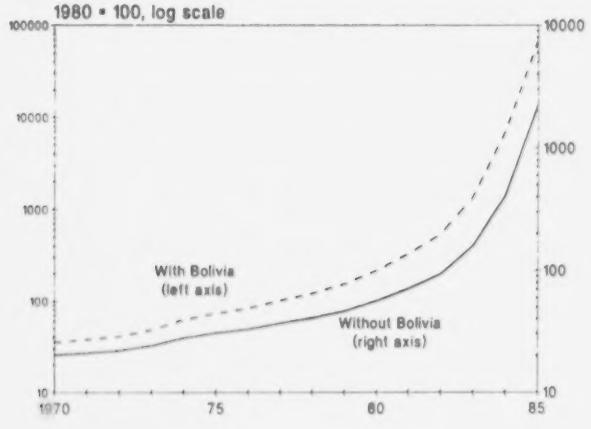
The debtor nations were therefore caught in a difficult situation. The principal on loans that had been falling in real value began to rise at an accelerating rate. The declining real repayments so evident and welcome during the 1970's also began, in 1981/82, to rise in real value.

Consumer Prices

One of the most telling of adjustment indicators in the domestic economy is the inflation rate. Measured as the change in consumer prices, the rate that general prices increased accelerated in all country groupings (fig. 12) except Northeast Asia.

The most dramatic single country case is that of Bolivia, which in 1985 had the highest inflation rate in the world, 100,000 percent over 1984. Because Bolivia had such a large weighted inflation change, we present the CPI patterns with and without Bolivia (fig. 12).[11] Particularly large rises in the inflation rate during 1980-85 occurred in Latin

Figure 12
Consumer price index, all 79 countries, with and without Bolivia



[11]For the middle-income countries, a logarithmic scale with Bolivia and a cardinal scale without Bolivia produce very similar trends.

America, where the increase ranged from 45 percent to 484 percent per year. Major borrowers, debt-affected major borrowers, upper middle-income countries, and all 79 countries had general price increases of over 400 percent in 1985.

The above situation sharply contrasts with the experience of the Asian regions, all of which had declining inflation rates between 1980 and 1985. Consumer prices in Northeast Asia are now increasing at only 2 percent per year, 240 times less than in Latin America.

Rapid inflation is an economy-deadening phenomenon in countries with limited access to world capital markets. Some of its more ravaging nonneutral effects are the elimination of private saving, curtailment of long-term contracts, capital flight, and the virtual end of domestic investment in new productive capacity. This depressing phenomenon is most evident in the gross capital formation in the countries with the highest inflation rates (fig. 13). As inflation accelerates, the share of GDP taken by capital formation falls.

Commodity Price Adjustments

The price adjustments that have taken place in the world trading sector reflect the influence of the changing growth rate in world liquidity and its transmission to developing countries. The real appreciations of the developing countries' currencies during the 1970's and general raw material shortages contributed to the price increases of the period. Those same factors were reversed in the 1980's as export promotion (real devaluation) policies accompanied excess stocks of primary, raw commodities important to trade from poorer countries. Price changes directly reflect the sharply different exchange rate, interest rate, and monetary environment of the 1980's compared with the 1970's (fig. 14).

The basic interaction between exchange rates and prices is one of the most direct in economics. When the value of foreign currency rises, individuals must give up more of their local currencies to obtain the same amount of foreign currency as before. All goods sold in units denominated in dollars, for example, will appear to rise in price. The supply curve appears to offer less at every price, thus, reducing supply. The seller must accept a lower dollar price in order to sell the same amount; the demand curve will appear to rotate clockwise. A depreciating dollar would have the reverse effect.

Factors other than exchange rates also affect the amount people sell and the quantities that others are willing to purchase. Variable weather, cartels, and changing market conditions have had profound effects, in the case of OPEC, or at least noticeable effects

Figure 13

Change in consumer price index and gross capital formation as a share of gross domestic product, debt-affected countries

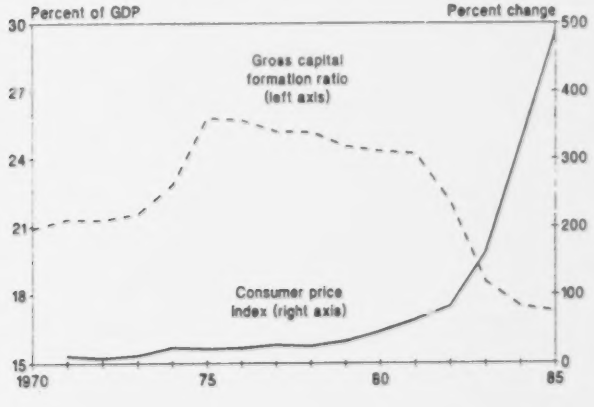


Figure 14

Change in export prices and world liquidity, all 79 countries

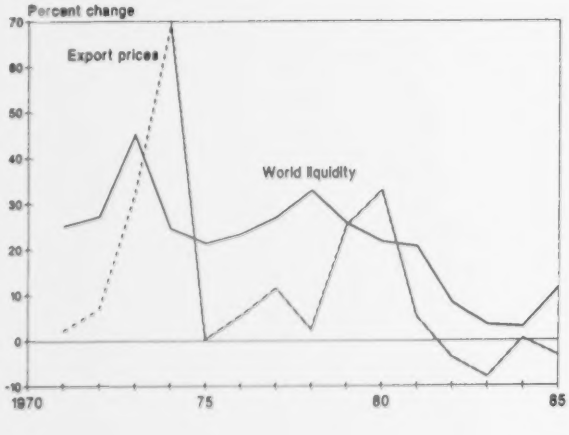
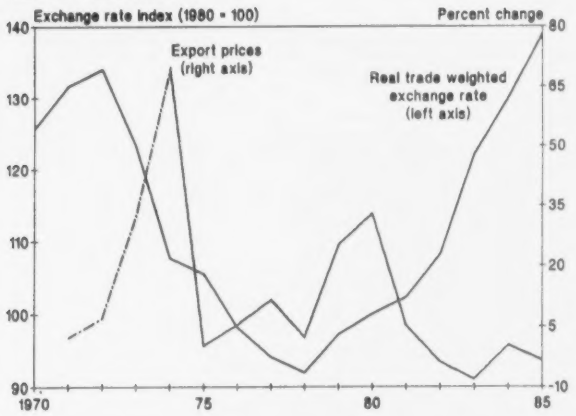


Figure 16

Change in export prices and real exchange rates, all 79 countries



on the supply of a variety of internationally traded goods. Wide swings in the growth rate in world income over the past 20 years have also significantly affected the ability of purchasers, both actual and potential, to buy products offered for sale in world markets.

Between 1973 and 1980, the value of the dollar declined by 35 percent against all currencies. During the same period, prices, as measured by export unit values, more than doubled (fig. 15). Regardless of the commodity price series used from general indexes down to individual commodity prices, the pattern is the same.

During the 1980's, the situation reversed that of the previous 8 years. The dollar has risen by 40 percent, while export unit values have fallen by 15 percent since 1981. Many individual commodities and commodity indexes have fallen by far greater amounts, however. The all primary commodity index[12] has declined 25 percent since 1980; raw food commodities such as grains and fruits have also fallen 25 percent. The index of all metals has dropped 30 percent, copper is down by 35 percent, and tin has fallen 28 percent in price. For Brazil, the dollar export price of sugar has fallen by more than 60 percent.

The last time price declines were as uniform as during the 1980's was during the Great Depression years of the 1930's. For many of the most debt-constrained countries, the comparison is apt.

Interest rates, in addition to their role in capital flows and exchange rate determination, also exert considerable influence of their own over prices. Most production and sales are protected by some sort of inventory "buffer" which smoothes uneven cycles in supply and demand. Interest rates are crucial to the size of these stocks. High interest rates make holding inventories expensive in two ways. First, the cost of borrowing to finance carryover increases. Second, the present value of such holdings declines as real interest rates increase. Both of these factors encourage reduced inventories. The desire to lower inventories shifts supply curves and tends to lower prices.

Money growth also affects prices through the ways in which people spend increased income, although that influence occurs after a greater lag than the effect on interest rates. With increased money, people find themselves with larger balances than they want

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[12]Calculated by the International Monetary Fund. See International Financial Statistics for historical data.

Figure 16

Current account, Sub-Saharan Africa and Northeast Asia

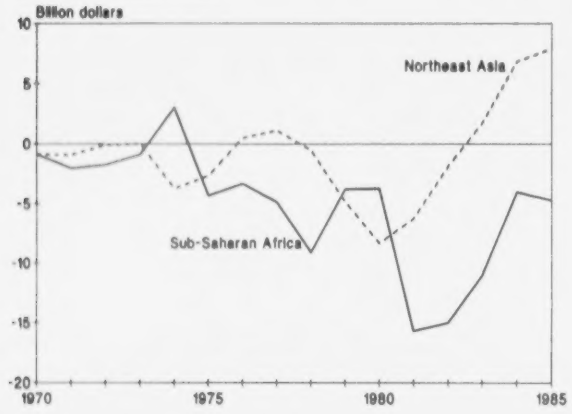


Figure 17

Current account deficits, Latin America and major U.S. markets

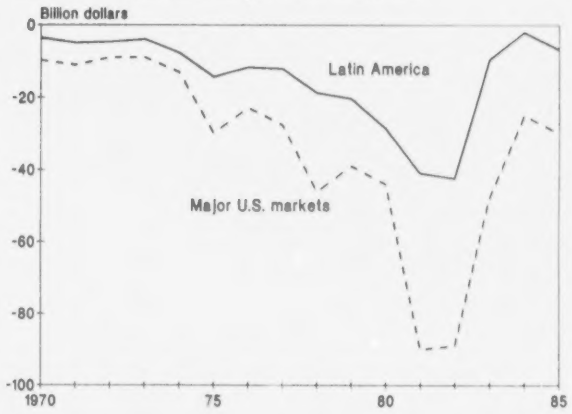


Figure 18

Declining total exports of goods and services, Latin America and Sub-Saharan Africa

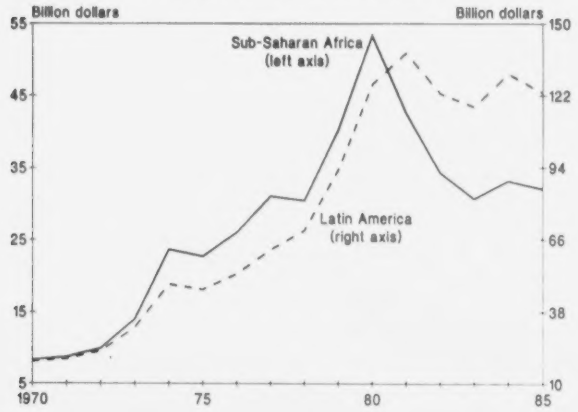


Figure 19

Increased total exports of goods and services, Northeast Asia and Southeast Asia

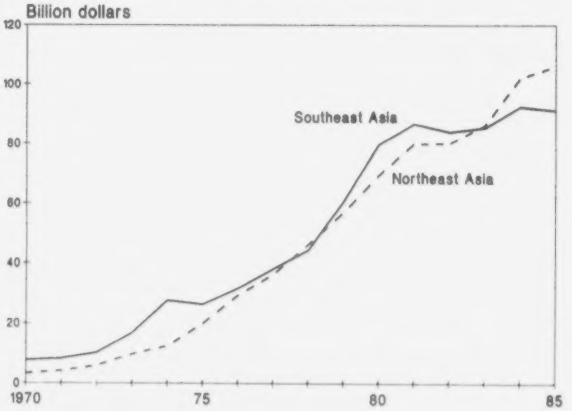


Figure 20

Declines in total imports of goods and services, Latin America and the debt-affected major borrowers

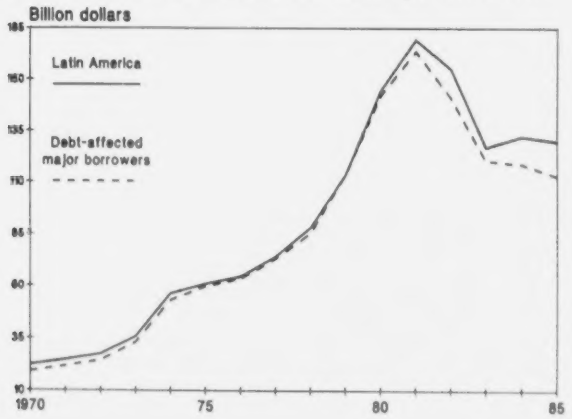
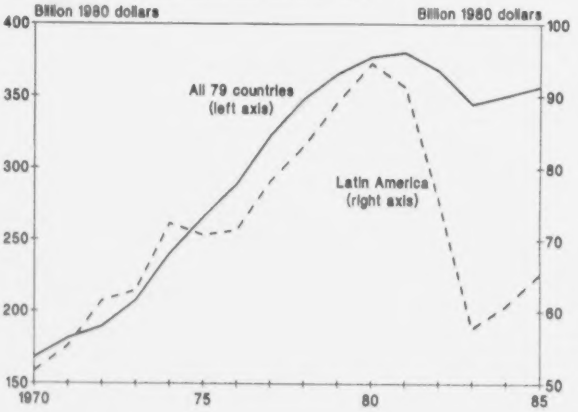


Figure 21

Real merchandise imports, all 79 countries and Latin America



to hold or to save. In trying to convert money to other assets or goods, prices will rise, as aggregate demand increases in relation to aggregate supply. The reverse will be the case when money (or its growth rate) is reduced.

The rate at which money grows or contracts also affects interest rates in ways that enhance the price effects noted above. A decrease in money growth may raise interest rates by contracting the supply of credit. The result will be to reinforce the price effect of a slower increase in money. Current prices in competitive environments contain all the information reflecting the monetary shock, interest rate, and exchange rate changes of the 1980's.

Trade Patterns

The current account balance is closely related to the flow of credit to the developing countries in the 1970's. The availability of credit during the 1970's permitted the widening of current account deficits through 1981. Similarly, when credit was curtailed, developing countries had to reduce imports and promote exports.

The current account deficit for all developing countries reached $153 billion in 1981, has since declined to $60 billion, and remains concentrated in North Africa and the Middle East and South Asia. The Sub-Saharan countries' current account deficit quadrupled in 1981 from 1980, but has since reversed (fig. 16). Northeast Asia is the only developing country grouping that maintains a surplus (fig. 16). Current account deficits have dropped the most in absolute terms in Latin America (fig. 17), the upper middle-income countries, the debt-affected countries, major borrowers, and major U.S. agricultural markets (fig. 17).

Between 1981 and 1985, the total nominal dollar value of exports and other service inflows (excluding unrequited transfers) has remained virtually unchanged for all countries, declining slightly from 1984 into 1985. The total exports of all major borrowers, debt-affected major borrowers, Latin America (fig. 18), Sub-Saharan Africa (fig. 18), North Africa and the Middle East, and low- and middle-income countries have actually declined from 1981. Only the Asian regions and the upper middle-income countries have made significant export gains (fig. 19). Major U.S. agricultural markets have seen their exports stagnate.

Most countries have reduced their current account deficits by reducing imports. Total imports have declined by nearly $100 billion since 1981 for all 79 countries. Only the Asian regions have shown an increase over the period. Sub-Saharan Africa has cut imports by more than 30 percent, while Latin America, the oil exporters, debt-affected major borrowers, and North Africa and the Middle East are also down by over 25 percent. The largest absolute declines during 1981-85 were in Latin America (down $50 billion, from $180 billion to $130 billion), North Africa (down $40 billion, from $137 billion to $97 billion), oil exporters (down $75 billion, from $258 billion to $183 billion), and debt-affected major borrowers (down $61 billion, from $174 billion to $113 billion, fig. 20).

Merchandise import volume has fallen sharply during the 1980's; Latin America alone has curtailed imports by over 30 percent since 1981 (fig. 21), with even greater cuts by the debt-affected major borrowers. The Asian regions, where imports have actually risen, are exceptions (fig. 22). Merchandise import levels for the major U.S. agricultural markets declined only slightly during 1981-85.

The decline in prices implies that the volume of exports has increased for all countries since 1981. Merchandise exports have increased to levels 20 percent higher than in 1981 for all 79 countries. However, this figure reflects an increase of only 5 percent over

Figure 22

Real merchandise imports, Northeast Asia and Southeast Asia

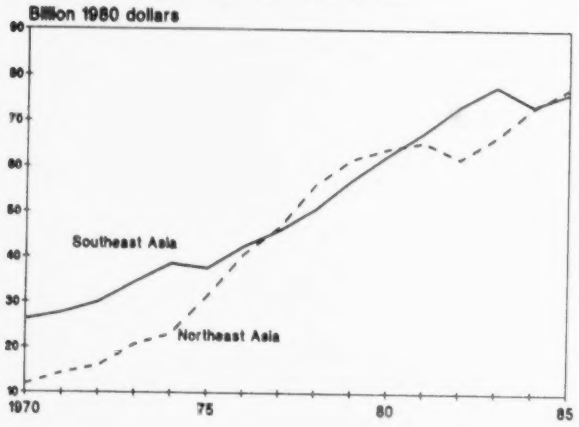


Figure 23

Declining real merchandise exports, Sub-Saharan Africa and oil exporters

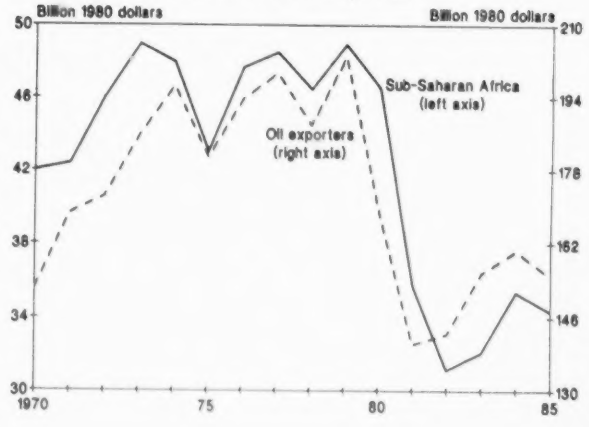


Figure 24

Increased real merchandise exports, South Asia, Southeast Asia, and Northeast Asia

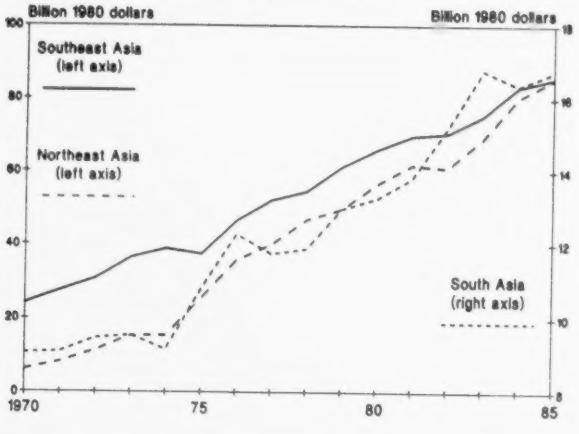


Figure 25

Real services deficit, Latin America and debt-affected major borrowers

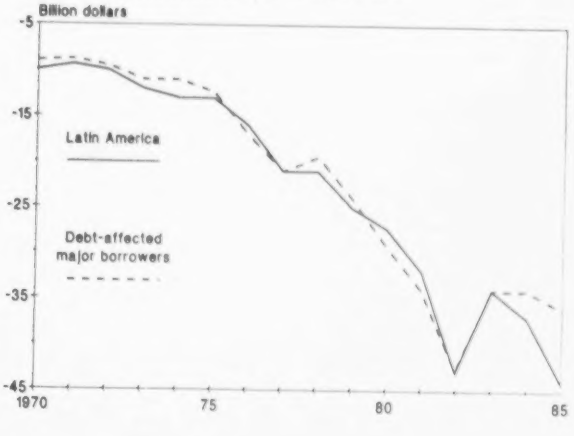


Figure 26

Net barter terms of trade, all 79 countries

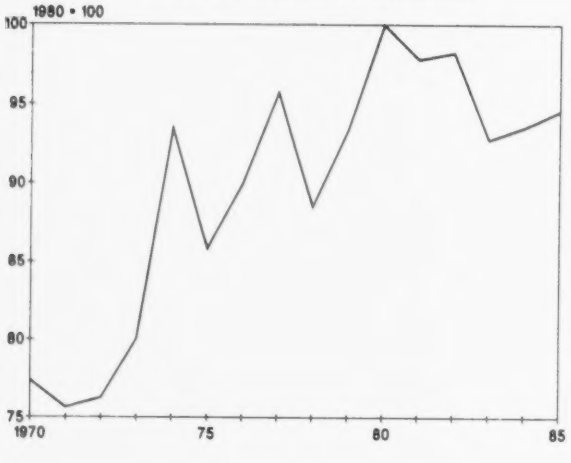
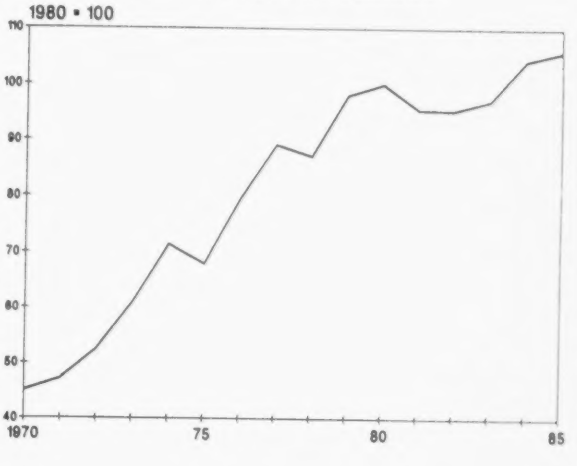


Figure 27

Income terms of trade, all 79 countries



1979, and virtually no change between 1984 and 1985.

Merchandise exports, expressed in 1980 dollars, have actually fallen from 1979 levels for Sub-Saharan Africa, North Africa and the Middle East, and oil exporters (fig. 23). The largest increases have been in the Asian regions, with Northeast Asia having the largest gain (fig. 24). Export volume declined in 1985 from 1984 for the oil exporters, debt-affected major borrowers, major borrowers, middle-income countries, North Africa and the Middle East, and Sub-Saharan Africa.

Some of the "improvement" in merchandise trade has, however, been moderated by continued deficits in the services balance, in both nominal terms and real terms. Current dollar estimates show a slightly reduced services deficit from 1981 to 1985, mostly concentrated in North Africa and the Middle East and oil exporters, the result of fewer oil field jobs for imported workers.

The nominal services balance for most other country groupings has generally stagnated. The real service balance, however, indicates no change for all countries and a worsening for Latin America and the debt-affected major borrowers (fig. 25).

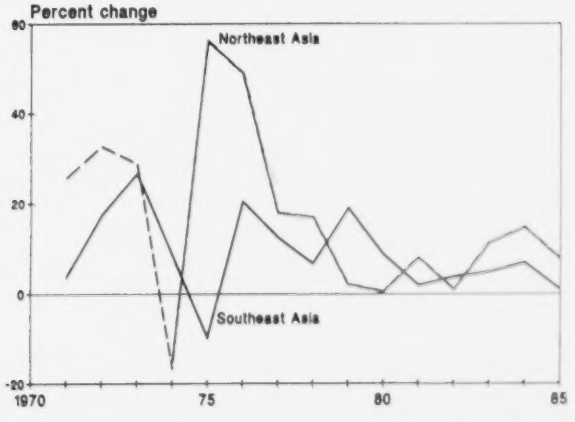
Terms of Trade

The declines in barter terms of trade (fig. 26) and the stagnation in income terms of trade in the early 1980's may well be ending (fig. 27). The 3-year export promotion by the developing countries increased both terms-of-trade indicators over the past 2 years. There is considerable contrast, once again, however, between the different categories of countries.

North Africa and the Middle East, the oil exporters, and Sub-Saharan Africa have all experienced declines in the income terms of trade in 4 of the past 5 years. Declining commodity prices and falling export growth continue to indicate the severe negative impact of external shocks on the trading sectors of countries with small or inflexible export sectors. All categories had slower (or negative) changes in 1985 compared with 1984, implying that the gains from export expansion are fast disappearing.

Northeast and Southeast Asia have sustained increases in income terms of trade since 1974 (fig. 28). These countries have large, diverse external sectors which adjust well to changing market conditions. On average, exports account for 40 percent of GDP, with several countries having proportions over 50 percent. The very low variation in the net

Figure 28
Improving income terms of trade, Southeast Asia and Northeast Asia



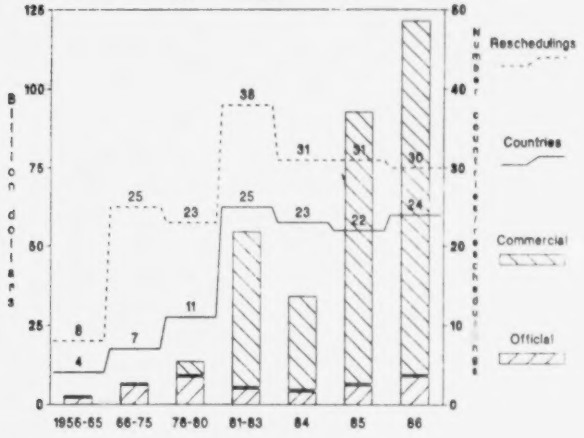
barter terms of trade for Northeast Asia is an excellent indication of the ability of those countries to adapt to changes in world markets.

THE DEBT PROBLEM

The pattern of international debt reschedulings since 1956 indicates the serious misalignment between payment commitments and the ability of countries to service their debts (fig. 29). During 1956-75, only 11 countries were involved in debt negotiation and reschedulings. The total amount rescheduled was only slightly more than $8 billion.[13] Between 1976 and 1980, 11 countries renegotiated $13.5 billion in debt.[14] Although the dollar amount increased, whether the reschedulings posed a serious threat to either the world financial or trading system is debatable. However, between 1981 and 1983, 25 countries rescheduled $55 billion.[15] Clearly, the magnitude of the debt at risk began to threaten the international financial system. Although reschedulings declined significantly in 1984, with 18 countries renegotiating almost $13 billion of debt,[16] the number of countries involved in 1985 (24) and amount of reschedulings ($93 billion)[17] indicate that debt repayment is still very much a problem.

Another aspect of the rescheduling which indicates a potential problem is the degree to which reschedulings have involved commercial, rather than official, debt. All renegotiations and reschedulings before 1976 involved official debt. Since 1981, however, more than 90 percent of the dollar amount involves commercial bank debt. The exposure

Figure 29
Debt reschedulings, number of countries rescheduling, and type of debt



[13]The four countries during 1956-65 were Argentina, Turkey, Brazil, and Chile. The seven countries during 1966-75 were Cambodia, Chile, Ghana, India, Indonesia, Pakistan, and Peru.

[14]The 11 countries during 1976-80 were Bolivia, Jamaica, India, Liberia, Nicaragua, Peru, Sierra Leone, Sudan, Togo, Turkey, and Zaire.

[15]The 25 countries rescheduling during 1981-83 were Argentina, Bolivia, Brazil, Central African Republic, Chile, Costa Rica, Cuba, Ecuador, Guyana, Jamaica, Liberia, Madagascar, Malawi, Mexico, Nicaragua, Pakistan, Poland, Romania, Senegal, Sudan, Togo, Turkey, Uganda, Yugoslavia, and Zaire.

[16]The 18 countries rescheduling in 1984 were Brazil, Ecuador, Ivory Coast, Jamaica, Liberia, Madagascar, Mozambique, Nicaragua, Niger, Nigeria, Peru, Philippines, Senegal, Sierra Leone, Sudan, Togo, Yugoslavia, and Zambia.

[17]The 24 countries rescheduling in 1985 were Argentina, Bolivia, Central African Republic, Chile, Costa Rica, Dominican Republic, Ecuador, Equatorial Guinea, Ivory Coast, Jamaica, Madagascar, Mauritania, Mexico, Morocco, Niger, Panama, Peru, Philippines, Senegal, Somalia, Sudan, Togo, Yugoslavia, and Zaire.

Table 1--U.S. bank loans to oil-importing developing countries

Year	Largest 24 banks			Other U.S. banks		
	Total claims	Capital	Claims as share of capital	Total claims	Capital	Claims as share of capital
	--Billion dollars--		Percent	--Billion dollars--		Percent
1980	54.4	33.8	161	11.8	19.6	60
1981	67.0	36.5	184	15.3	23.2	66
1982	79.3	39.8	199	19.3	26.4	73
1983	84.6	44.1	192	19.1	30.5	63
1984	89.0	49.7	179	18.8	35.0	54
1985	86.1	58.8	146	16.7	40.0	42

Source: Institute for International Economics.

of large U.S. commercial banks to the debt of oil-importing developing countries provides one measure of the potential seriousness of default on bank solvency (table 1). During 1980-85, loans to these developing countries far exceeded total bank capital of the largest U.S. banks. However, the peak year of exposure was 1982 where potential claims were twice bank capital.

Since 1982, the ratio has fallen to below 150 percent, a rate below that of 1980. Because of the recent pattern of reduced exposure and the seeming willingness of commercial banks to further lend to developing countries, except under duress, the threat to commercial institutions will be further reduced over time.

PATTERNS OF DEBT ACCUMULATION, COMPOSITION, AND RATIOS

Total debt for 79 developing countries reached approximately $820 billion in 1985. This total is up from $790 billion in 1984 and $760 billion in 1983. A more inclusive measure of developing country debt which incorporates Eastern European and Asian centrally planned countries would bring the estimated total to approximately $950 billion (21). The composition of debt noticeably moved toward private short-term debt during 1973-82, but lending has shifted away from short-term credit since then. This reshuffling back toward longer term obligations and away from short-term credit has had the positive effect of reducing debt service payments and thereby reducing repayment pressure.

The Debt Composition

The composition of debt varies from region to region and across economic categories (21 and ERS estimates). Northeast Asia (fig. 30) has used the highest degree of short-term credit as a proportion of total debt, while the low-income economies and South Asia have the highest level of official credit and the lowest level of short-term credit (fig. 31). Latin America has the lowest relative level of official credit (fig. 32).

The geographic distribution of total debt changed substantially during 1973-85 (fig. 33). Latin America, Southeast Asia, and Northeast Asia have seen the fastest growth in debt, while North Africa and the Middle East, Sub-Saharan Africa, and South Asia have reduced their shares in the total. However, the geographic distribution has been virtually constant since 1982. The distribution across income classes has closely followed

Figure 30

Structure of total debt, Northeast Asia

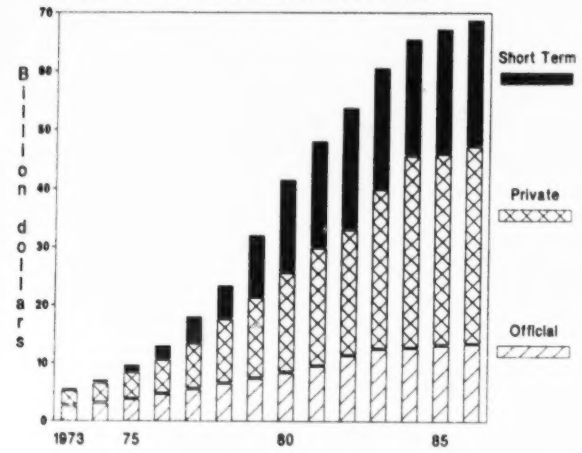


Figure 31

Structure of total debt, low-income economies

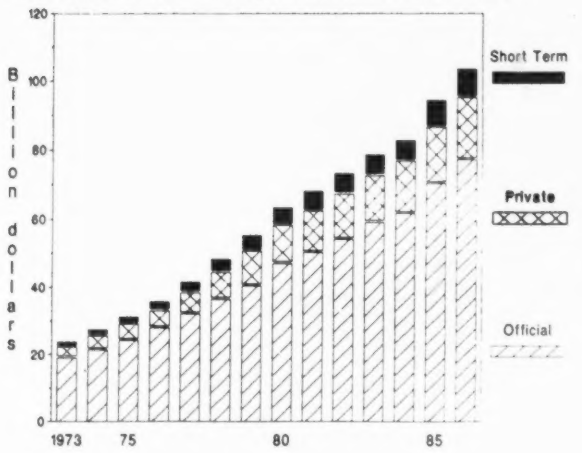


Figure 32

Structure of total debt, Latin America

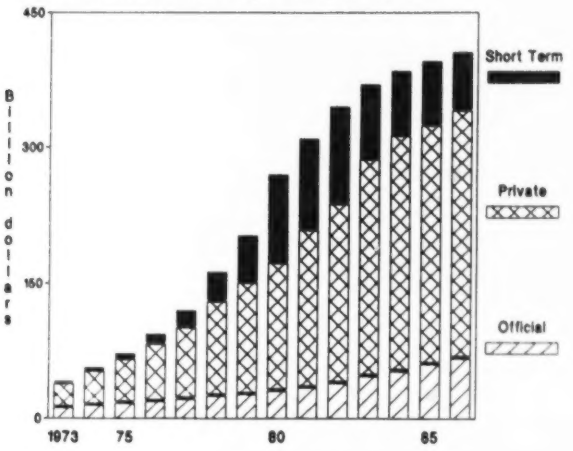


Figure 33

Distribution of total debt, geographic regions

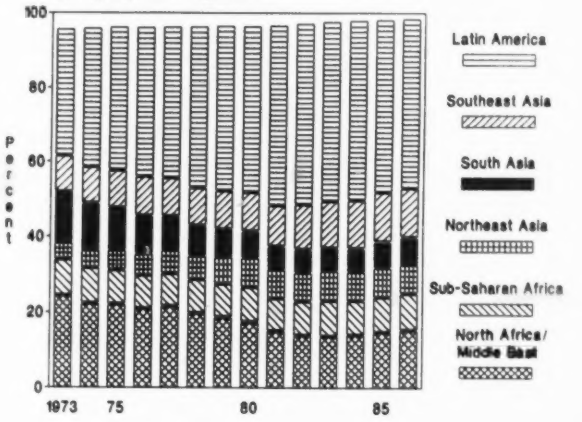


Figure 34

Distribution of total debt, income groups

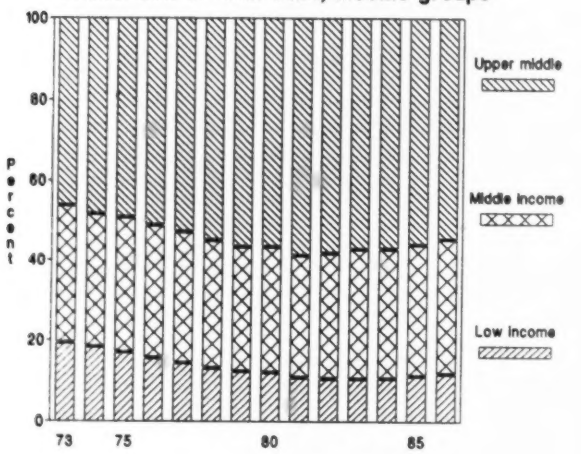
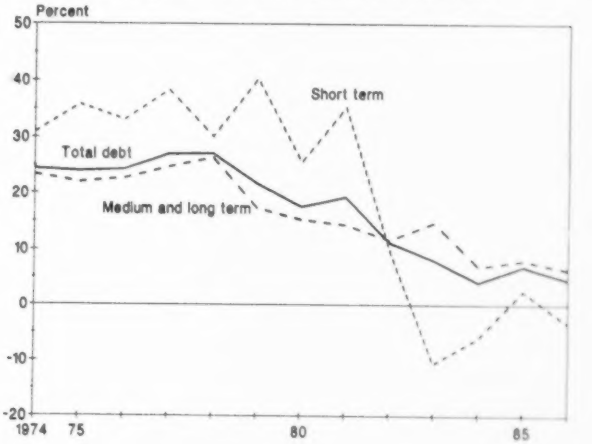


Figure 35

Annual change in total debt, all 79 countries



that of the regions (fig. 34). The upper middle-income countries have tended to raise their share, the middle-income countries have tended to hold the same position, and the lower income countries have reduced their portion. Again, the relative shares of debt have remained stable since 1982.

The Growth of Debt

The annual growth rate of debt exceeded 20 percent during 1973-81 for all developing countries, but there has been a clear secular decline since 1978 (fig. 35). This pattern is similar to that displayed by the shares of medium- and long-term debt. The pattern for short-term debt is similar but more pronounced; short-term debt grew by more than 30 percent in the earlier period and actually declined in 1983-84.

The growth rate of debt displays regional differences. Northeast and Southeast Asia have higher rates of debt accumulation than does South Asia, reflecting greater access to commercial markets. But the difference tends to narrow at the end of the period (fig. 36). Similarly, the upper middle- and middle-income countries had a higher growth rate of debt than did the low-income countries. This difference also tended to narrow in the 1980's. With regard to the growth in short-term debt, the figure for the debt-affected major borrowers grew at a much higher rate than major borrowers and the average for the 79 developing countries (fig. 37). Similarly, Latin American short-term debt grew at a much higher rate before 1982 (fig. 38). This situation is certainly one of the symptoms suggesting the payments difficulties that these two groups encountered during 1982-85.

The Northeast and Southeast Asian countries had among the highest growth rates of debt over the 1973-83 period, but only the Philippines, of the East Asian groups, has experienced debt payment difficulties. This situation strongly suggests that rapid accumulation of debt by itself was a necessary but not sufficient condition for the subsequent debt servicing problems in the 1980's. If credit is used to make investments which generate a stream of foreign earnings in excess of payment requirements, then even large debts can be serviced. If the credit is used to expand consumption or for investments with either lower rates of return in foreign earnings than restitution due or a pattern of returns which does not match repayments, then payment difficulties will arise. The radical change in policies and the world trade environment from 1979-82 severely affected the returns to those investments that were made in the late 1970's.

The Withdrawal of Credit

The withdrawal of credit to developing countries, indicated by the declines in the growth of debt, is magnified when one considers the net flows of credits (referred to as net transfers) which went to developing countries during 1973-85.[18] Between 1974 and 1982, the cumulative net transfers to developing countries equaled about $200 billion (fig. 39). In 1978, net transfers peaked at $57 billion. Starting in 1983 and continuing through 1985, net transfers to developing countries were negative, implying debt service payments were greater than incoming new credit. During 1983-85, there was an outflow of about $76 billion, with 1984 alone accounting for almost $40 billion. Although the absolute level of net outflows in 1985 marginally improved, negative net transfers still averaged over $30 billion during 1983-86.

The above situation is best placed in perspective when considering a 1985 proposal by the U.S. Secretary of the Treasury. At that time, the suggestion was for a 3-year goal of increased funding to developing countries of less than $30 billion, which would result in

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[18]Net transfers is defined as disbursements less total debt service and is equal to the change in total debt less interest payments.

Figure 36

Annual change in medium- and long-term debt, South Asia, Southeast Asia, and Northeast Asia

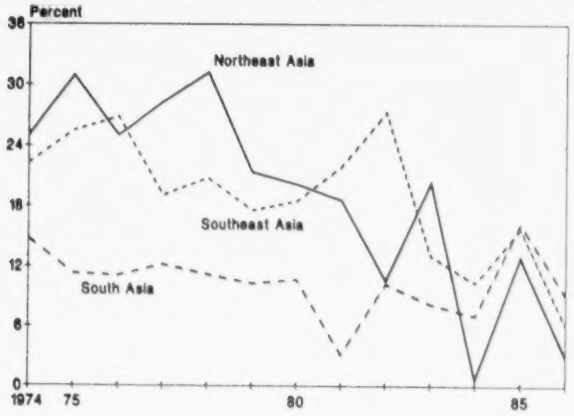


Figure 37

Change in short-term debt

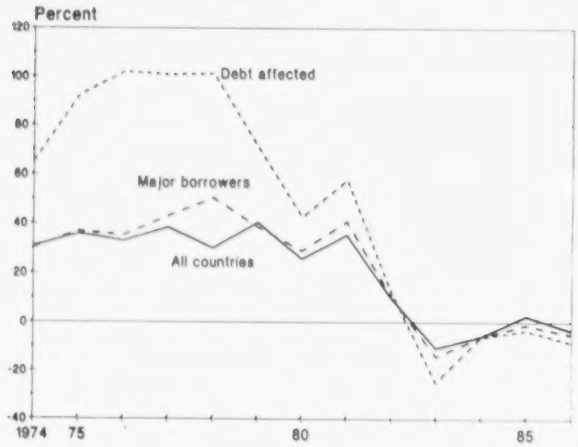


Figure 38

Change in short-term debt, Latin America, Sub-Saharan Africa, and North Africa/Middle East

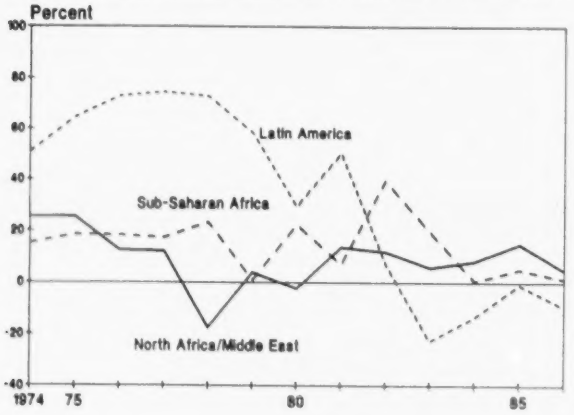
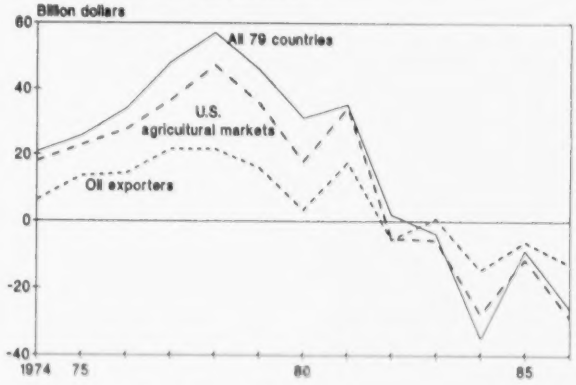


Figure 39

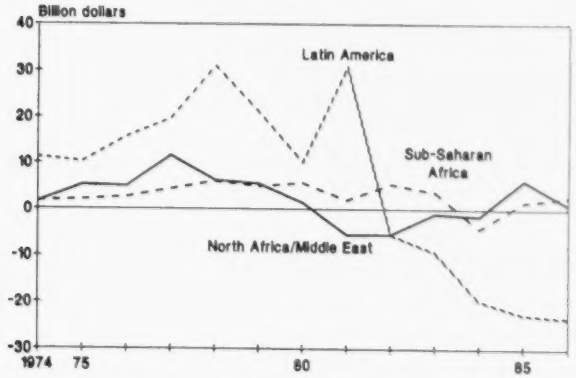
Net transfers, all 79 countries, U.S. agricultural markets, and oil exporters 1/



1/ New borrowing less debt service payments.

Figure 40

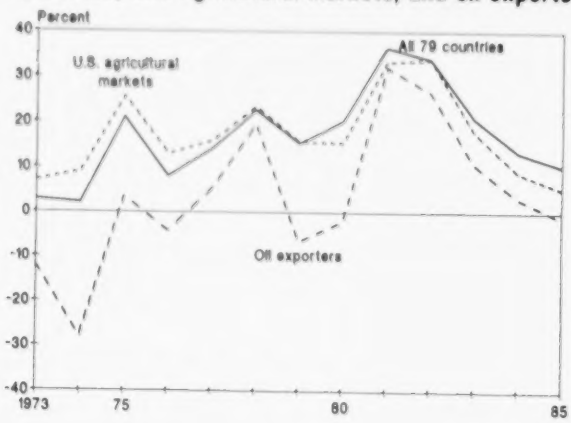
Net transfers, Latin America, Sub-Saharan Africa, and North Africa/Middle East 1/



1/ New borrowing less debt service payments.

Figure 41

Net exports needed to offset interest payments, all countries, U.S. agricultural markets, and oil exporters



an average of only a $10-billion improvement in the net transfer position of those countries. His plan would have had to be three times as large to achieve even a zero net transfer position of the developing countries had it been implemented in 1985.

The average difference between the 1974-82 period and the 1983-85 period was $50 billion with the peak difference being almost $100 billion, comparing 1978 with 1984. Viewed from any perspective, that change was substantial and one which had to dampen international trade through the loss of available foreign exchange. The decline in the imports of goods and nonfactor services of the developing countries from a peak of just under $500 billion in 1981 to the estimated 1985 value of $410 billion mirrored this change simply because, given the world trading environment, virtually all of the balance-of-payments adjustment had to come from decreasing exports.

The overall pattern of inflow followed by outflow was pervasive in all categories, but the extremes were dominated by a few groups. Thus, U.S. agricultural market countries mirrored the overall pattern closely, as did Latin America (fig. 40). The upper middle-income pattern also closely followed that for all countries while the low-income countries made up largely of South Asian and Sub-Saharan African countries showed a much more stable, although declining, pattern (but without the negative net transfers in the latter part of the period).

The Need for Adjustment

The withdrawal of credit from developing countries required substantial balance-of-payments adjustment.[19] We can calculate this adjustment by computing the change in net exports of goods and nonfactor services required to meet at least interest payments on the debt. Taking this calculation as a ratio of exports yields the net adjustment rate.[20] The pattern of 1973-81 was very different from that of 1981-85. In 1973 and 1974, the years of the first oil shock, the net adjustment rate for all developing countries was less than 3 percent (fig. 41). This rate rose to more than 20 percent in 1975, dropping to just over 15 percent during 1976-80. In the peak year of 1981, concurrent with or directly after the change in the growth rate in world liquidity, the adjustment rate rose to more than 35 percent. In 1981-84, the adjustment rate dropped to just over 10 percent.

Unlike some of the other patterns, there are wide differences in the degree to which countries have undertaken the needed adjustment by lowering imports, switching exports, or both. The oil exporters had a pattern which differs substantially from that of all developing countries in the first part of the period. But, after 1981, the pattern mirrored that of all developing countries quite closely.

The upper middle-income and middle-income countries had a pattern which closely followed that of all developing countries, except that the upper middle-income countries required a low degree of adjustment throughout most of the period. The low-income countries, on the contrary, had a pattern of increasing need for adjustment, averaging over 70 percent since 1980.

The debt-affected major borrower countries showed more extreme fluctuations than the pattern of all developing countries and even have an adjustment in excess of

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[19]Overall short-term balance-of-payments equilibrium requires that the capital account equal the negative of the current account balance. A reduction in capital inflow (net transfers) must be accompanied by a fall in net imports.

[20]The net adjustment (NA) is NA = X - M - iD, where X = exports of goods and nonfactor services, M = imports of goods and nonfactor services, i = the current interest rate on the level of total debt, D. The adjustment rate is then NA/X. All magnitudes are nominal.

Figure 42

Net exports needed to offset interest payments, all countries, major borrowers, debt-affected countries

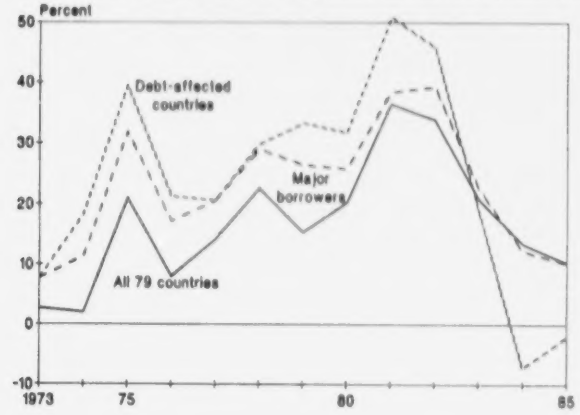


Figure 43

Net exports needed to offset interest payments, South Asia, Southeast Asia, and Northeast Asia

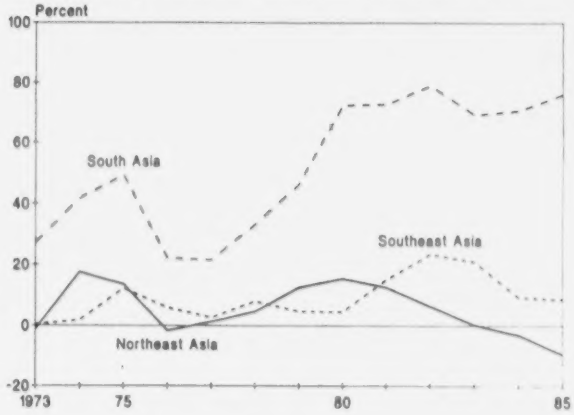


Figure 44

Net exports needed to offset interest payments, Latin America, Sub-Saharan Africa, and North Africa/Middle East

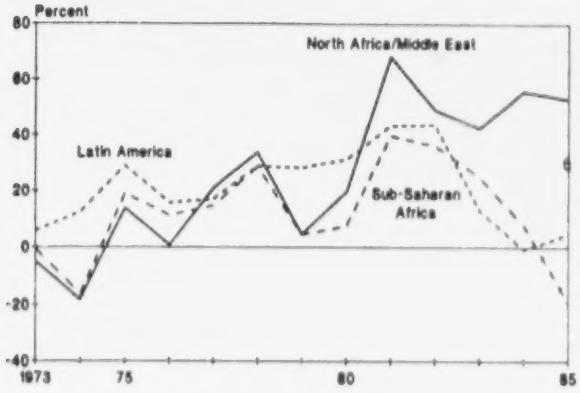


Figure 45

Debt service as a share of total exports, all 79 countries, oil exporters, and U.S. agricultural markets

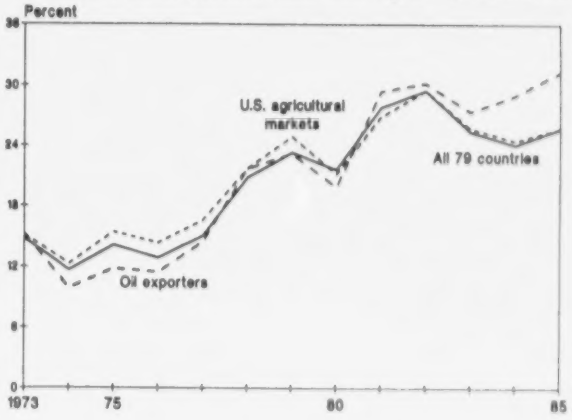


Figure 46

Debt service as a share of total exports, all 79 countries, major borrowers, and debt-affected countries

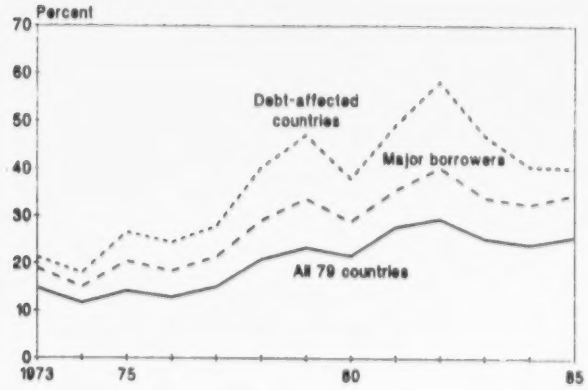
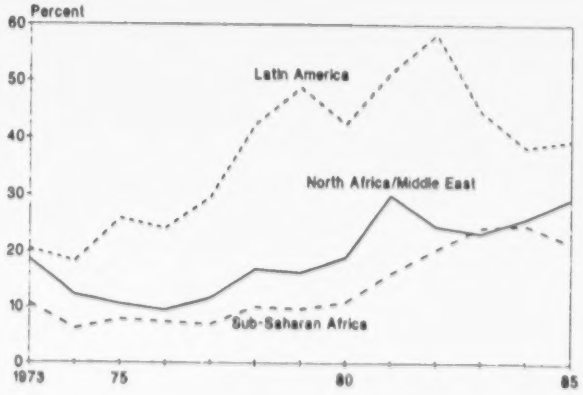


Figure 47

Debt service as a share of total exports, Latin America, Sub-Saharan Africa, and North Africa/Middle East



requirements in 1984 and 1985 (fig. 42). The pattern for all Asian countries differed markedly from those of Northeast Asia and, to a lesser extent, Southeast Asia. These countries had relatively stable adjustment patterns while South Asia had a divergent pattern as did the low-income countries of which it is a major part (fig. 43). Latin America and, to some degree, Sub-Saharan Africa had patterns of increasing need for adjustment followed by a substantial correction since 1981 (fig. 44). North Africa and the Middle East had a pattern indicating increasing need for adjustment in the 1980's compared with the 1970's (fig. 44).

Debt Ratios

One common measure of the burden of international debt is debt service as a percentage of exports of goods and nonfactor services. For all developing countries, there was a 250-percent increase in this ratio between the low of 12 percent in 1974 and the high point of 29 percent in 1982 (fig. 45). However, throughout that period there were positive net transfers so that this increase in the debt service ratio was a potential but not an actual burden; new borrowings exceeded debt service payments.[21] Beginning in 1982, the debt service payments became a burden, and Mexico became the first to negotiate reschedulings of its debts. Yet even during 1983-85, net debt service payments amounted to less than interest payments. The debt service ratio declined between 1982 and 1985, most notably between 1982 and 1983. However, even at the reduced rate of 1983-85, one out of four export dollars was going for debt service payments.

The most severely affected country groups show the largest absolute decline in the debt service ratio: upper middle-income countries, debt-affected major borrowers (fig. 46), and Latin America (fig. 47). The middle- and low-income countries, South Asia and Southeast Asia (fig. 48), and the poorest African countries (fig. 47) show continuing increases.

Although the debt service ratio indicates the current debt burden, this measure depends critically on payment terms, amount of new borrowings, and reschedulings. The rescheduling of debt lowers the current debt burden, as measured by the debt service ratio, but only transfers the burden to the future. The debt/export ratio and debt/GDP ratio are two measures of the cost of repaying debt. The former indicates the amount of exports to be forgone for debt repayments and the second, the amount of domestic income.

The debt/export and debt/GDP ratios do not show the favorable declines which the debt service ratio indicated. Overall, after the ratios doubled between 1974 and 1982, they leveled somewhat between 1982 and 1985 (figs. 49-50). The debt/export and debt/GDP ratios, in every case, were higher in 1985 than in 1982.[22]

Savings from Concessionary Interest

One of the factors which can mitigate the debt problem for developing countries is the degree to which credit is given on concessional terms. One measure of this relief, although an imperfect one, is the degree to which the average interest rate which a country actually pays on its debt is different from the commercial rate. As a proxy for this measure, we computed the savings generated by the difference between the average

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[21]This situation is true except to the degree that the real interest rate is lowered through renegotiation. There is no evidence, however, through the study period, that interest rates have been reduced. Indeed, the typical rescheduling raised the spread over LIBOR.

[22]The increases were not as spectacular as during 1979-82. However, there was no evident tendency for the debt/export or debt/GDP ratios to decline. The burden was not lifted.

Figure 48

Debt service as a share of total exports, South Asia, Southeast Asia, and Northeast Asia

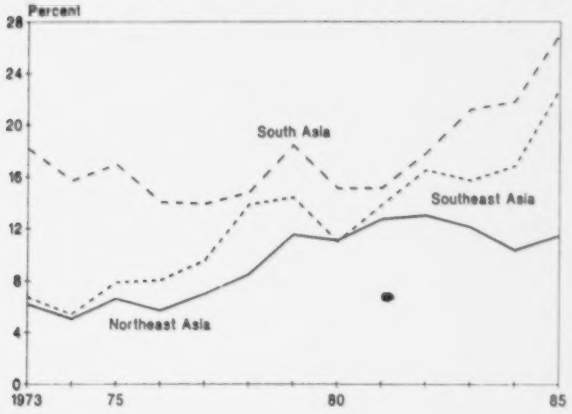


Figure 49

Total debt as a share of gross domestic product, all 79 countries, U.S. agricultural markets, and oil exporters

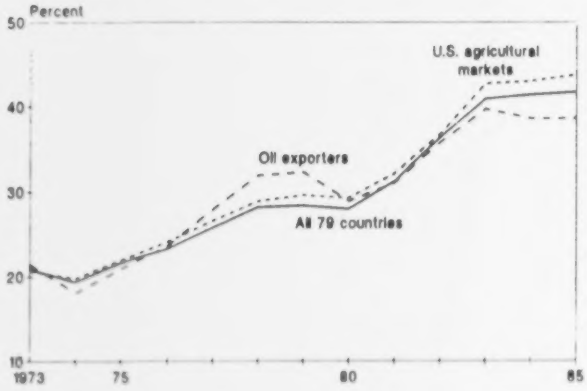


Figure 50

Total debt as a share of total exports, all 79 countries, U.S. agricultural markets, and oil exporters

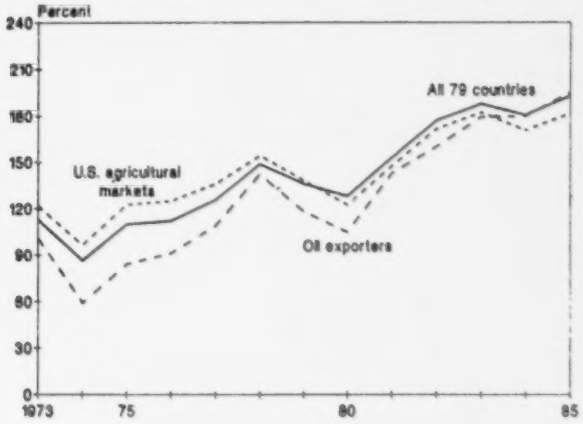


Figure 51

Savings from concessionary interest rates on medium- and long-term debt, all countries, major borrowers, and debt-affected countries

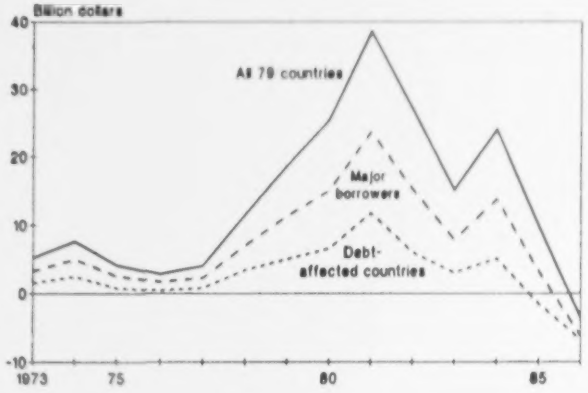


Figure 52

Savings from concessionary interest rates on medium- and long-term debt, South Asia, Southeast Asia, and Northeast Asia

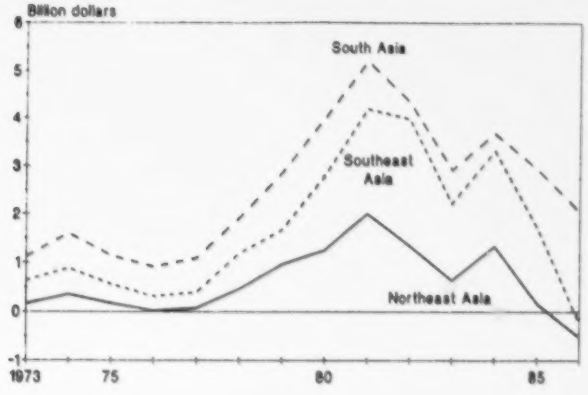
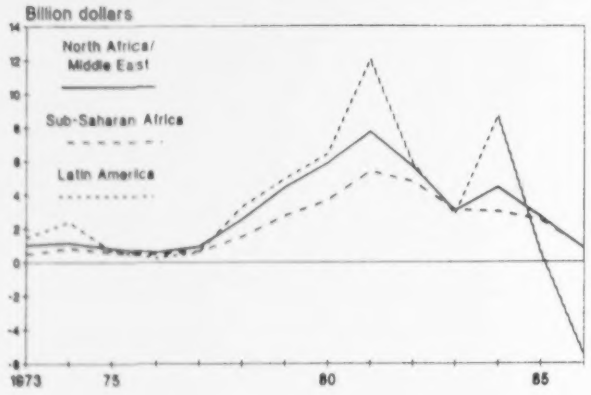


Figure 53

Savings from concessionary interest rates on medium- and long-term debt, Latin America, Sub-Saharan Africa, and North Africa/Middle East



rates on long- and medium-term debt and on short-term debt.[23] The savings from concessionary interest were modest through 1977 for all categories of countries. However, these savings became substantial starting in 1978 and rose rapidly to 1981, the year of maximum nominal commercial rates. In 1981, concessionary savings for all developing countries amounted to almost $40 billion compared with only $4 billion in 1977 (fig. 51). Since 1981, concessionary savings have declined almost as rapidly; by 1985, they were only $8.5 billion.

Certain categories of developing countries maintained relatively large concessionary savings compared with others. In particular, debt-affected major borrowers and upper middle-income countries actually paid premiums for their credit by 1985. On the other hand, low-income countries, mostly in South Asia (fig. 52) and Sub-Saharan Africa (fig. 53), were still getting concessionary financing in 1985.

The loss of concessionary financing for the major debtor countries by 1985 is certainly one more factor that exacerbates the current debt problem.

THE CONSEQUENCES

The process of adjusting to the overaccumulation of debt in the 1970's has had several major consequences. Per capita income growth has declined, the direct result of policies to constrain imports, at least partially by inhibiting aggregate demand.[24] Trade also declined, a consequence of falling world and domestic income. Under a normal adjustment scenario where current account deficits are no longer sustainable, one would expect governments to undertake policies to constrain imports first and then undertake policies to stimulate exports. This reduction of imports was a major feature of the adjustment observed since 1982. However, exports have not grown as expected, partly because of reduced income growth in the developed countries. The resumption of renewed growth in the developing countries involves investment in new industries or investment in existing export industries to sustain export growth. The withdrawal of credit has been accompanied, and paid for, by reducing gross national investment.

The ability to generate renewed growth in developing countries is predicated on their capacity to increase exports. However, if substantial numbers of countries are simultaneously reducing capital formation as well as imports, increased export sales become extremely difficult, as has been the general case since 1982. Although many countries have been adjusting their current account balance, no evidence of renewed growth appears to be following it. The adjustments to the debt crisis may well have forced developing countries (and, possibly, the world economy) into a low-level growth equilibrium. This situation will prevent the rapid reduction in the debt ratios which would lead to new credit availability and growth in the developing countries. Because these countries have been growth markets for U.S. agricultural exports, the main effect of the debt crisis has been to constrain world trade in general, agricultural trade as part of total trade, and U.S. agricultural exports as a major agricultural exporting nation.

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[23] There is often a spread between the long- and short-term rates. Over time, the two rates, if of equal risk, should be equal.

[24] Many countries responded to their balance-of-payments deficits by implicitly acknowledging the possibility that excess aggregate demand (in the form of fiscal deficits or excessive inflation) contributed to increased imports. The policies implemented to reduce aggregate demand included fiscal and monetary restraint combined with exchange rate depreciations or other trade policy measures. The consequently reduced import demand was therefore accompanied by declining income.

Figure 54

Annual change in real per capita income, all 79 countries, major borrowers, and debt-affected countries

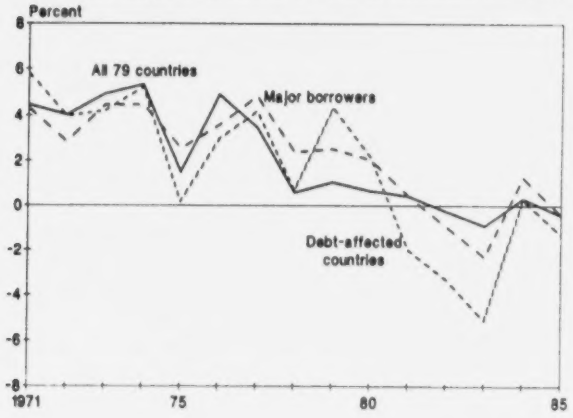


Figure 55

Annual change in real per capita income, all 79 countries, U.S. agricultural markets, and oil exporters

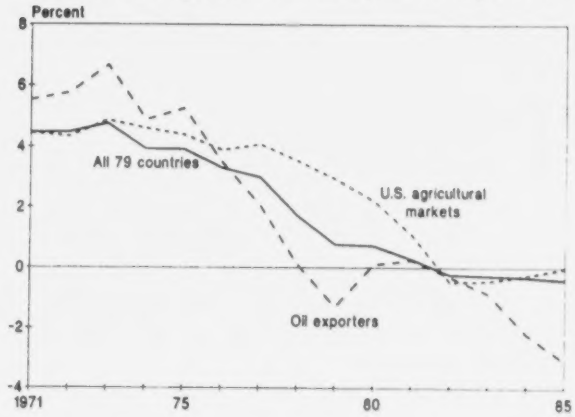


Figure 56

Annual change in real per capita income, Latin America, Sub-Saharan Africa, and North Africa/Middle East

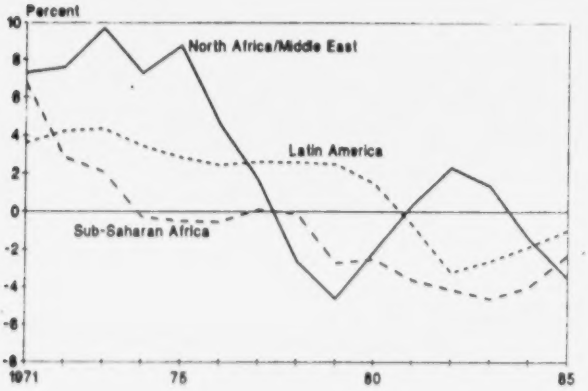


Figure 57

Annual change in real per capita income, South Asia, Southeast Asia, and Northeast Asia

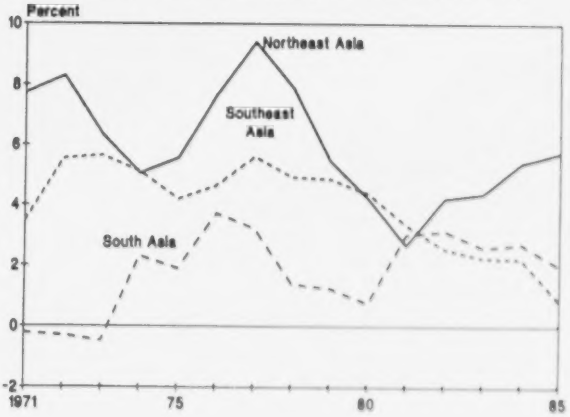


Figure 58

Trade in goods and nonfactor services, Latin America

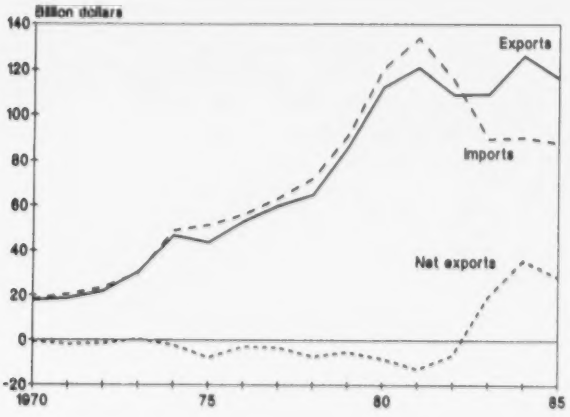
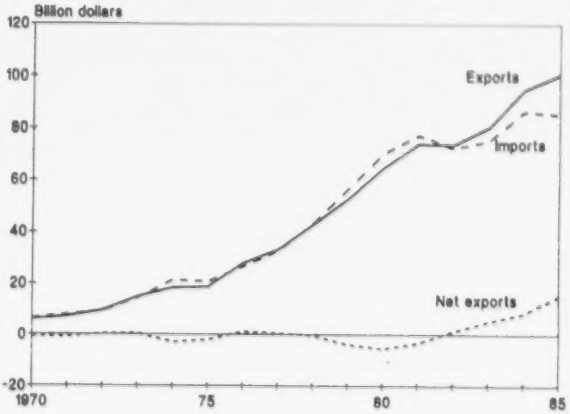


Figure 59

Trade in goods and nonfactor services, Northeast Asia



Annual Changes in Real Per Capita Income

Real per capita income growth for the developing countries has declined since 1973 (fig. 54). The debt-affected major borrowers have had particularly pronounced negative growth since 1981. The oil-exporting, middle-income countries (fig. 55) had higher average growth in the early period but increasingly negative growth during 1982-85. The upper middle-income countries have had similar declining patterns over the period. The apparent increase in the per capita incomes of the low-income countries is almost completely the result of the large weight taken by India in that group, as is seen most clearly when contrasted with the performance of the Sub-Saharan countries of Africa, by far the most numerous countries of the low-income category (fig. 56).

The Asian nations, in general, have had more positive growth patterns than other developing countries (fig. 57). The Northeast Asian countries have had the highest real per capita income growth, compared with other groups, over the entire period. Although they have had an overall pattern of declining growth, their growth rates have increased in the first half of the 1980's, up to about 6 percent per year, very high by worldwide standards. Southeast Asia follows the more general pattern of declining growth, but to a modest degree. South Asia has actually had a pattern of increasing growth.

The African pattern was quite different (fig. 56). Sub-Saharan Africa had increasingly negative per capita income growth. In 11 of the 12 years through 1985, these countries had absolute declines in real per capita GDP; the only year of positive growth was at less than 1 percent. The Sub-Saharan development problem is still the most challenging facing the world.

The North Africa and Middle East pattern followed closely that of the middle-income oil exporters with high early growth rates and high negative growth rates in the later part of the period. The change from an annual average growth of 10 percent to a negative growth of almost 5 percent was the greatest of any region.

Effect on Trade

From 1970 through 1980, both imports and exports of goods and nonfactor services increased rapidly. However, during 1975-83, the developing countries ran trade deficits. Between 1980 and 1981, imports rose as exports leveled off, generating a trade deficit for the developing countries of more than $80 billion. Between 1980 and 1984, imports declined by $76 billion, or a value almost equal to the 1980 trade deficit. Over the same period, exports increased $25 billion so that by 1984, there was a $20-billion trade surplus, a change of $100 billion from 1980. Between 1984 and 1985, both imports and exports fell so that the surplus declined to only $15 billion.

This pattern of declining imports and stagnant exports during 1980-84 is mirrored in almost all the trade patterns. The more critical the debt constraint the more dramatic the import curtailment and export promotion. Although imports declined by less than 20 percent for all developing countries, they declined by more than 30 percent for Latin American countries (fig. 58) and 40 percent for debt-affected major borrowers. In Northeast Asia (fig. 59), where the relative trade imbalance never became serious, both imports and exports increased, although exports increased more than imports. In Sub-Saharan Africa (fig. 60), both imports and exports fell by 40 percent, a pattern also mirrored to some degree in North Africa and the Middle East (fig. 61).

The Fall in Gross Domestic Capital Formation

One of the most pronounced features of 1970-85 was the increase and subsequent decrease in the rate of gross domestic capital formation. For all developing countries

Figure 60
Trade in goods and nonfactor services, Sub-Saharan Africa

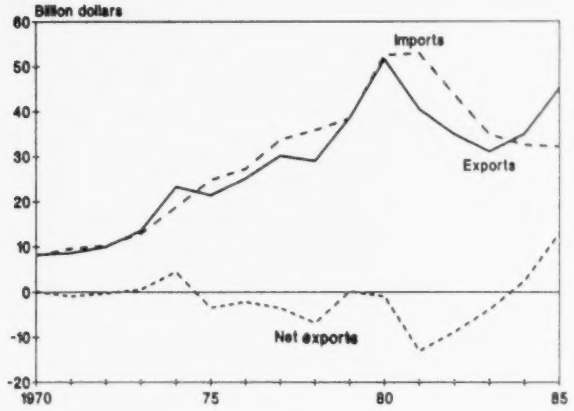


Figure 61
Trade in goods and nonfactor services, North Africa and the Middle East

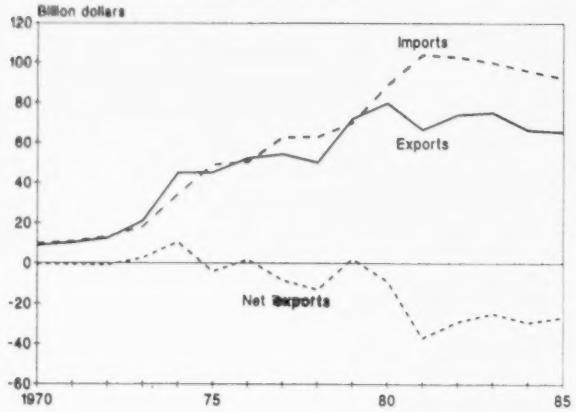


Figure 62
Gross domestic capital formation as a share of gross domestic product, all 79 countries, debt-affected countries, and Latin America

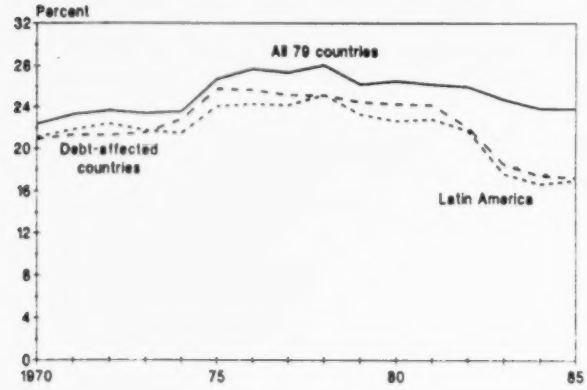


Figure 63
Gross domestic capital formation as a share of gross domestic products, South Asia, Southeast Asia, and Northeast Asia

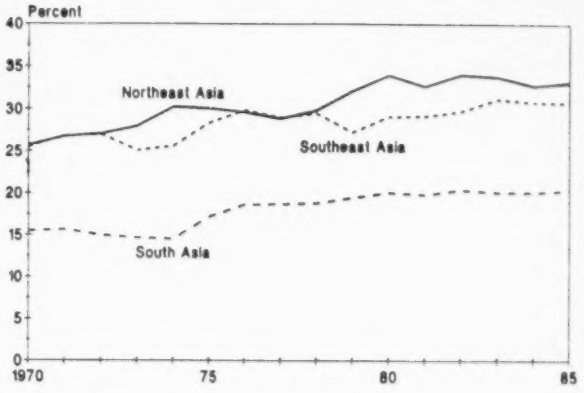


Figure 64
Agricultural trade, Sub-Saharan Africa

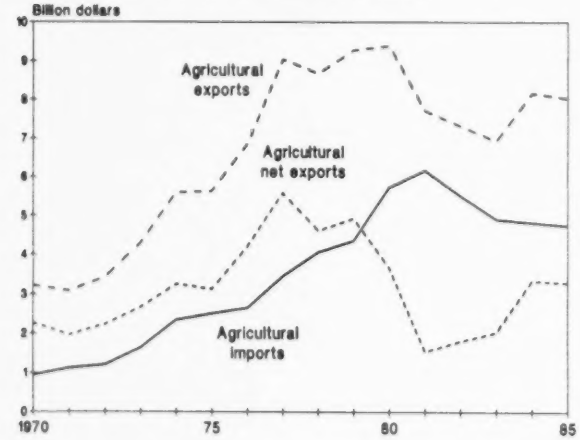
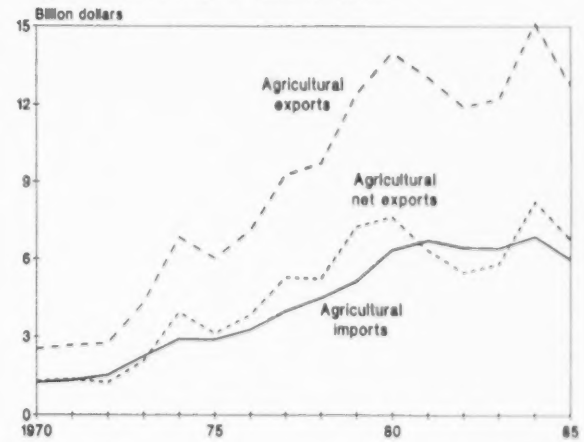


Figure 65
Agricultural trade, Southeast Asia



(fig. 62), the rate averaged just over 23 percent during 1970-74, 27 percent during 1975-78, 26 percent during 1979-82, and then to 24 percent in 1984-85. The decline is most pronounced in the Latin American region and the countries comprising the debt-affected major borrowers. The fall in gross domestic capital formation is evident in all of the groupings except for those in Asia (fig. 63), where the very high rates achieved in the middle of the period were exceeded by the end of the period.

The decline in gross domestic capital formation is one of the more pessimistic outcomes of the debt adjustment process. Without high rates of investment, renewed growth following the period of adjustment will be difficult.

Agricultural Trade

Agricultural trade patterns generally follow trends similar to those of total trade. The developing countries as a whole are net exporters of agricultural commodities. Between 1973 and 1981, imports rose faster (in nominal dollars) than exports. As with all exports, agricultural exports increased faster than imports during 1981-84, although the agricultural balance did not return to the levels of the late 1970's.

The peak year for imports was in 1981, with a decline following into 1984. Exports declined beginning in 1980, and only in 1984 returned to that level. Sub-Saharan Africa again had the bleakest picture, with both exports and imports significantly lower in 1984 than in 1980-81 (fig. 64). South Asia's agricultural imports actually rose faster than exports. Southeast Asian imports of farm products remained steady (in dollar terms), with a sharp increase in exports in 1984 (fig. 65). In that region, all the variation in the agricultural trade balance came from exports. The pattern was reversed in Northeast Asia, where exports remained constant, but imports declined (fig. 66).

The pattern of Latin America, since 1982, was one of export promotion and import stagnation (fig. 67). The dollar value of exports increased strongly after 1982, contributing a larger share to overall export earnings. Upper middle-income countries reversed the negative agricultural trade balance of 1980-81. The debt-affected major borrowers had the largest relative shift; imports remained at depressed levels after 1981, and exports increased most after 1982.

The general rule is that there have been no actual trend reversals, with the exception of Sub-Saharan Africa exports. The export trend increased for exporters, and imports stayed well above the levels of the late 1970's for all groupings.

Agricultural imports increased when compared with all imports by developing countries after 1982, rising to 15 percent of the total in 1984 from 13 percent in 1982. The most substantial increase was in Sub-Saharan Africa, where agricultural goods increased as a proportion of all imports since 1976. The immediate question is whether development goods are being sacrificed at ever-increasing rates as all imports decline.

The most dramatic case of agricultural imports supplanting other imports was in Latin America. Farm products rose to 15.5 percent of all imports, up from 11.5 percent in 1982, and higher than at any time during the 1970's. Only Northeast Asia sustained the trend of agricultural imports falling as a proportion of all imports. Major U.S. markets showed an upward trend in purchases of farm products in relation to all goods in 1982-84, up from 13 percent to 15 percent.

Agricultural exports by all countries expanded about as fast as all exports during 1982-85 (fig. 68). Agricultural exports grew as a proportion of all merchandise exports, especially in Sub-Saharan Africa (except 1985), Southeast Asia (particularly Thailand), Latin America, and North Africa and the Middle East (fig. 69). Those countries may be the

Figure 66

Agricultural trade, Northeast Asia

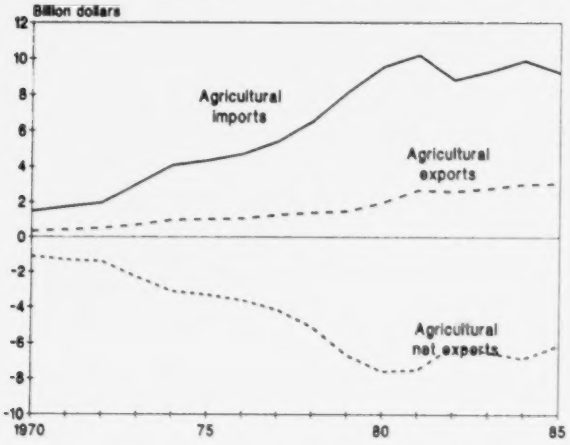


Figure 67

Agricultural trade, Latin America

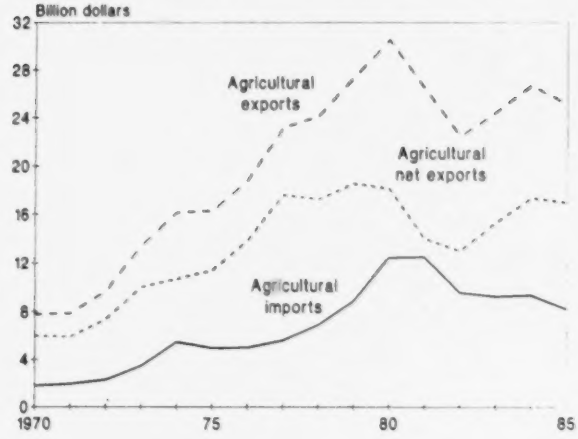


Figure 68

Agricultural exports as a share of all merchandise exports, all 79 countries

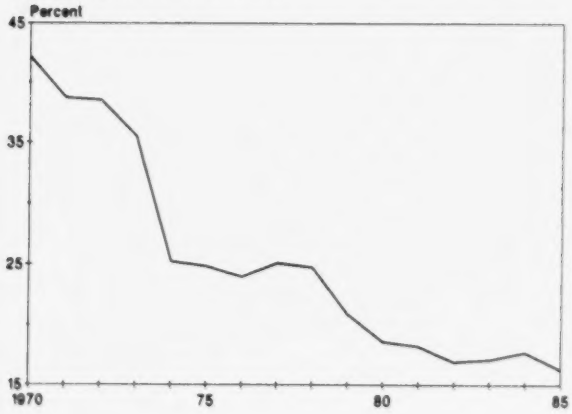


Figure 69

Agricultural exports as a share of all merchandise exports, Latin America and Sub-Saharan Africa

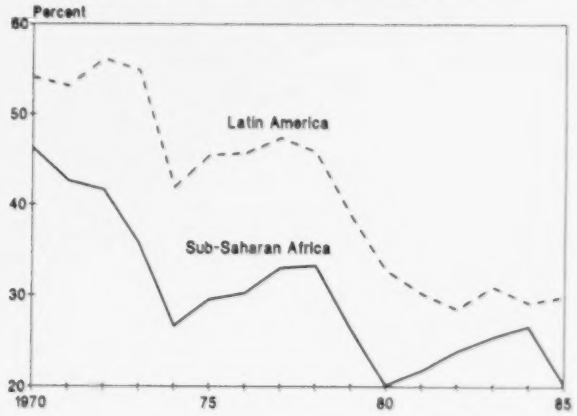


Figure 70

U.S. agricultural exports to all 79 countries

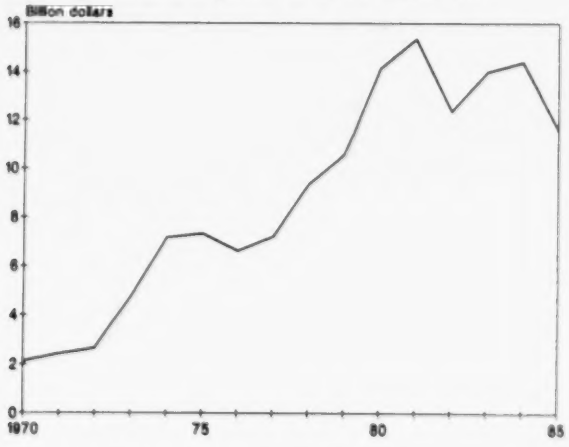
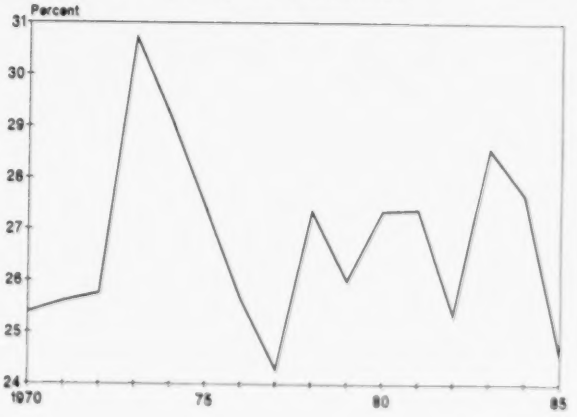


Figure 71

U.S. agricultural exports as a share of all agricultural imports, all 79 countries



ones in which expansion could be expected because they have traditionally been major producers of exportable crops. Major U.S. agricultural markets, on the other hand, continued to maintain agricultural exports as a constant proportion of all exports.

U.S. Agricultural Exports

U.S. exports to all 79 countries studied fell sharply in 1982, before recovering in 1983 and 1984 and plummeting again in 1985 (fig. 70). The total dollar value in 1985 was only slightly above that of 1979. Only Sub-Saharan Africa imported a higher dollar value of agricultural products from the United States in 1985 than in 1984, possibly for famine relief.

The U.S. market share through 1984 remained above the levels of the late 1970's, except in 1982 (fig. 71). Market share gains were confined to declining markets, however. U.S. farm products accounted for 50 percent of those in Latin America, up from 35-45 percent in the late 1970's. The United States maintained a larger proportion of total agricultural product sales in our major agricultural markets (fig. 72). The potentially expanding markets of the Asian regions have, however, been a loss in terms of U.S. agricultural penetration.

Figure 72
U.S. agricultural exports as a share of all agricultural imports, major markets, Northeast Asia, and Latin America

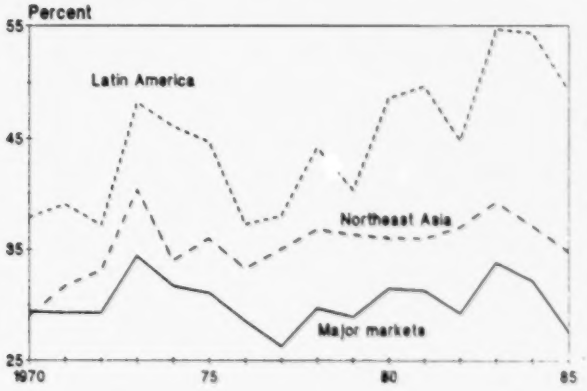


Figure 73
Gross domestic product growth under three scenarios, all 79 countries

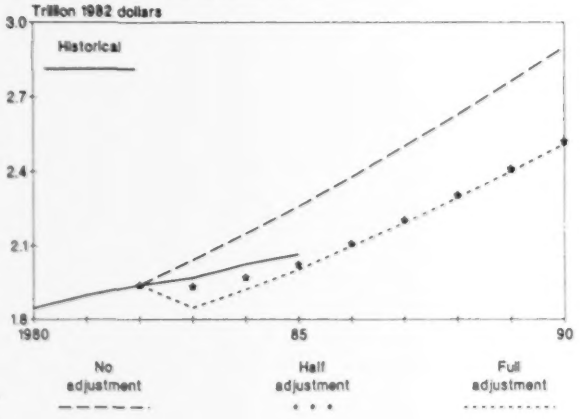
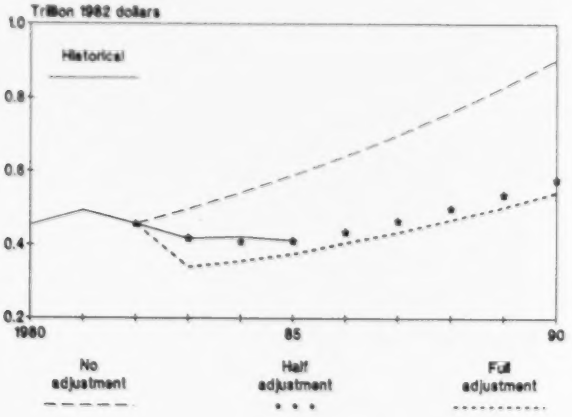


Figure 74
Import growth under three scenarios, all 79 countries



THE CONSEQUENCES: AN ASSESSMENT

We can assess the probable consequences of the debt constraint by comparing actual outcomes of 1982-85 against simulations of outcomes over alternative financial constraint environments.

For all developing countries (figs. 73 and 74), the actual outcomes fell at about the 50-percent adjustment level.[25] The change, either an increase in net exports or a decrease in net imports, needed to meet interest payments alone was realized over a 2-year period, on average. Most of the loss in growth and trade is already achieved at the 50-percent adjustment rate.[26]

Figure 75
Gross domestic product growth under three scenarios, debt-affected major borrowers

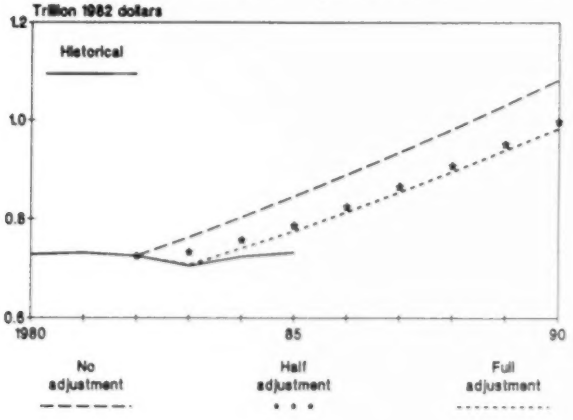


Figure 76
Import growth under three scenarios, debt-affected major borrowers

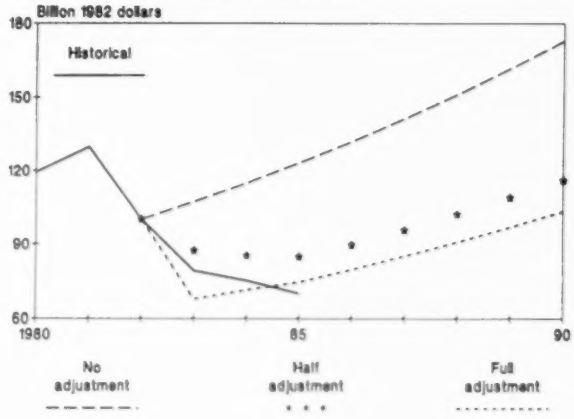


Figure 77
Gross domestic product growth under three scenarios, Latin America

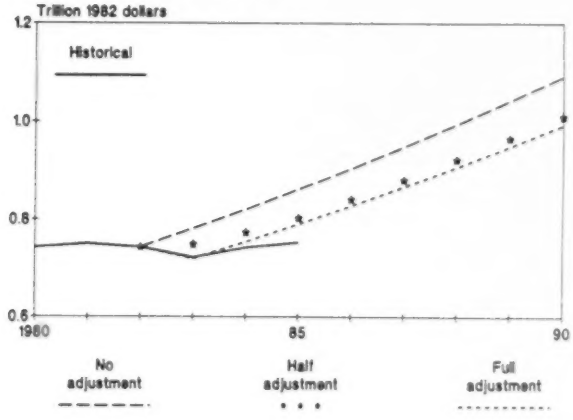
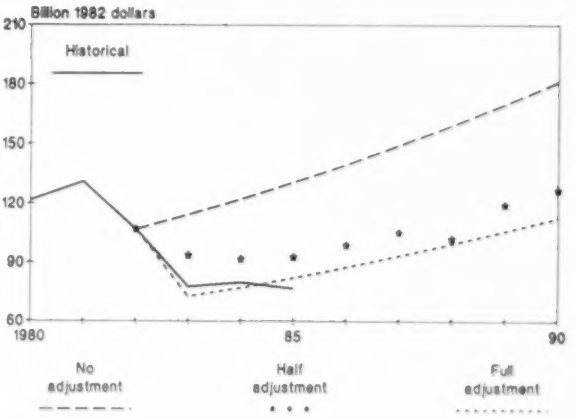


Figure 78
Import growth under three scenarios, Latin America



[25] The model used in the adjustment scenarios is explained in appendix B. This model has been used in the analysis underlying financial constraints in two previous reports (21, 22).

[26] A 50-percent adjustment rate implies that countries will adjust their policies to achieve a 50-percent reduction in the net adjustment described earlier. Full adjustment means that countries adjust their balance of payments to fully service the interest on their debt in 1 year.

Two very different patterns emerge for all developing countries. The groups which are the most debt constrained have actually generated outcomes which are below the full adjustment scenario. These groups are debt-affected major borrowers (figs. 75 and 76), Latin America (figs. 77 and 78), middle-income oil exporters, and Sub-Saharan African countries (figs. 79 and 80).

The Asian countries, on the other hand, appear to be only mildly constrained. Northeast and Southeast Asia are almost achieving GDP growth at an unconstrained result (figs. 81 and 82), and South Asia is exceeding the projected constrained result. However, these economies are achieving higher import growth in relation to potential outcomes, but they also have had to reduce import growth in line with the slower pace of growth in world trade (figs. 83 and 84).

THE RESOLUTION OF THE DEBT PROBLEM

The ideal world scenario for resolving the debt crisis would include a period in which debt-affected countries would undertake policy changes to realign their export-import balance followed by a period of renewed world growth led by expansion of trade. However, there is no evidence of this actually occurring.

Except for North Africa and the Middle East and South Asia, the needed adjustment to the change in finance availability has taken place, but there is scant evidence that this adjustment will be followed by renewed income and trade growth. The global effect of contracted imports and export promotion in such a large part of the world has led to a situation in which the export markets have become more competitive and more constrained.

Commodity prices, among other goods traded internationally, have fallen. The United States is now undertaking policies to reduce its high trade deficit that was present in most of the study period. Japan is running an $80-billion trade surplus and could provide a growing export market, but it seems unwilling to take the required steps.

Financial institutions are also unwilling or unable, on net, to further lend to the developing countries. Commercial lenders have been withdrawing credit from these countries through the process of negative net transfers in excess of $30 billion by 1985.

Solutions to date have served to maintain the present value of developing country debt. Rescheduling debt has become commonplace with the effect of superficially improving the term structure of the debt but not of reducing its burden. The debtor countries find themselves in a situation where the debt load is equal to or greater than it was at the start of the debt crisis in 1982. For all of the adjustments and renegotiations, the constraint which debt has imposed on world trade and development has not been noticeably reduced.

Figure 79
Gross domestic product growth under three scenarios, Sub-Saharan Africa

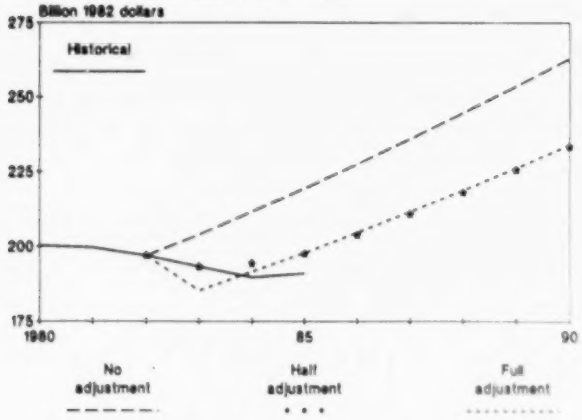


Figure 80
Import growth under three scenarios, Sub-Saharan Africa

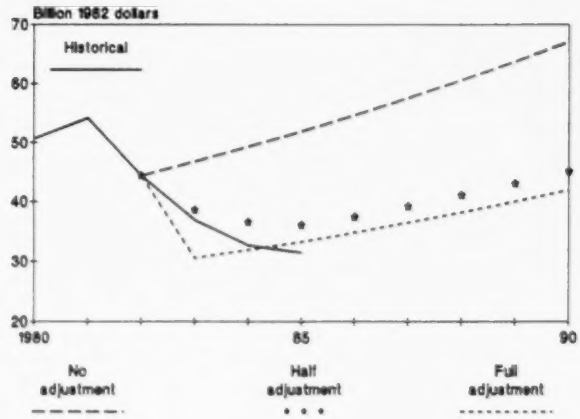


Figure 81
Gross domestic product growth under three scenarios, Northeast Asia

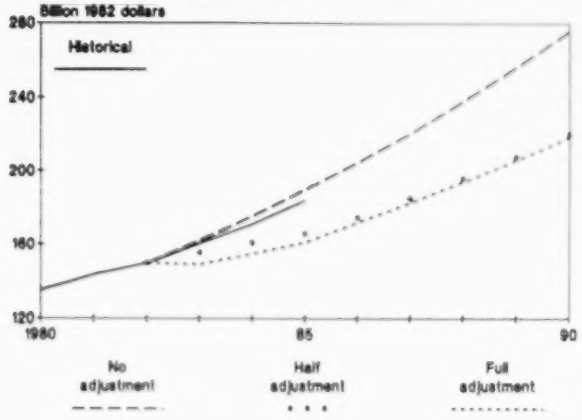


Figure 82
Gross domestic product growth under three scenarios, South Asia

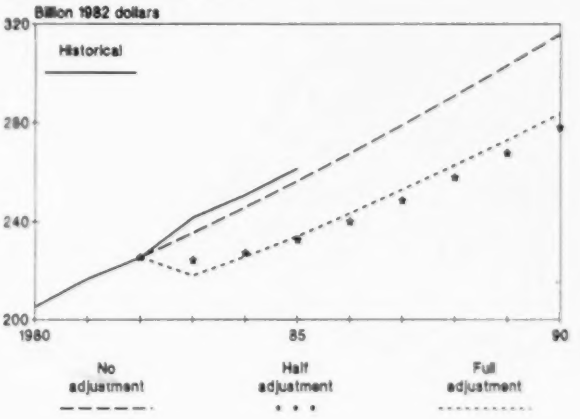


Figure 83
Import growth under three scenarios, Northeast Asia

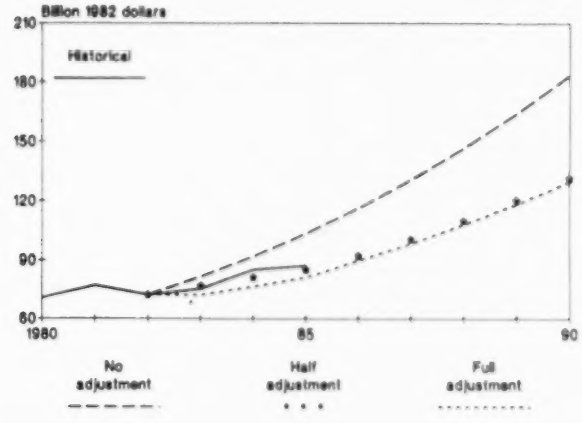
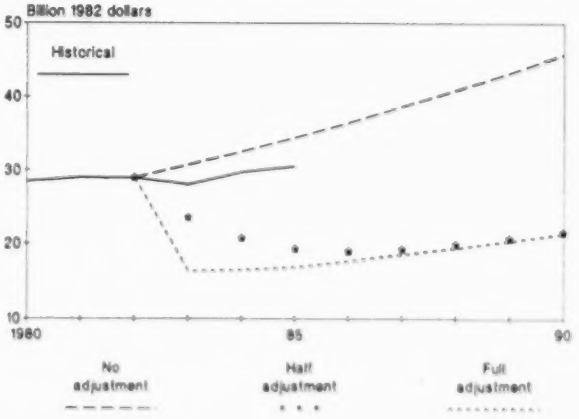


Figure 84
Import growth under three scenarios, South Asia



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APPENDIX A: COUNTRY CATEGORIES

Region/country	Low-income economies	Middle-income economies	Upper middle-income economies	Oil exporters	Major borrowers 1/	Debt-affected major borrowers 2/	Major U.S. agricultural markets 3/
North Africa and Middle East:							
Algeria			1	1			1
Egypt		1		1	1		1
Iran			1	1			
Iraq			1	1			1
Jordan			1				
Lebanon		1					
Morocco		1		1	1	1	1
Syria			1				
Tunisia		1					1
Turkey		1		1	1		1
Yemen Arab Rep. (Sana)		1					
Sub-Saharan Africa:							
Benin	1						
Burkina Faso	1						
Cameroon		1		1			
Central African Rep.	1						
Chad	1						
Ethiopia	1						
Gabon		1		1			
Gambia	1						
Ghana	1						
Ivory Coast		1					
Kenya	1						
Liberia	1						
Madagascar	1						
Malawi	1						
Mali	1						
Mauritania		1					
Mauritius	1						
Niger	1						
Nigeria		1		1	1	1	1
Rwanda	1						
Senegal		1					
Sierra Leone	1						
Somalia	1						
Sudan	1						
Tanzania	1						
Togo	1						
Uganda	1						
Zaire	1						
Zambia		1					
Zimbabwe		1					
Northeast Asia:							
Hong Kong			1				1
Korea, Rep. of			1	1	1		1
Taiwan			1	1			1
South Asia:							
Bangladesh	1			1			1
Burma	1						
India	1			1	1		1
Nepal	1						
Pakistan	1			1			1
Sri Lanka	1						

See footnotes at end of table.

Continued--

APPENDIX A: COUNTRY CATEGORIES -- Continued

Region/country	Low-income economies	Middle-income economies	Upper middle-income economies	Oil exporters	Major borrowers 1/	Debt-affected major borrowers 2/	Major U.S. agricultural markets 3/
Southeast Asia:							
Indonesia		1		1	1		1
Malaysia			1	1	1		1
Papua New Guinea		1					
Philippines		1		1	1	1	1
Singapore			1	1			1
Thailand		1			1		1
Latin America:							
Argentina			1	1	1	1	
Bahamas			1				
Bolivia		1					
Brazil			1		1	1	1
Chile			1		1	1	1
Colombia		1		1			1
Costa Rica		1					
Dominican Republic		1		1			1
Ecuador		1		1			1
El Salvador		1		1			1
Guatemala		1					
Guyana	1						
Haiti	1			1			1
Honduras		1					
Jamaica		1		1			1
Mexico			1	1	1	1	1
Nicaragua		1					
Panama			1	1			1
Paraguay		1					
Peru		1		1			1
Uruguay		1					
Venezuela			1	1	1		1
Yugoslavia			1		1		1

1/ Over $10 billion in all external debt.
2/ Rescheduled during 1982-86.
3/ Purchases of at least $200 million of U.S. farm products in any 3-year period.

APPENDIX B: METHODOLOGY

The macrofinancial simulations are derived by introducing varying degrees of financial constraint into the simple open economy macroeconomic general equilibrium model described below.

We established the macrofinancial simulations model with the following values, derived from existing data at time t_0 = 1982:

(1) $Y_0 = \underline{Y}$

(2) $I_0 = \underline{I}$

(3) $X_0 = \underline{X}$

(4) $M_0 = \underline{M}$

(5) $D_0 = \underline{D}$

where the variables are defined as

Y = GNP in U.S. dollars

I = Gross domestic capital formation in U.S. dollars

X = Exports of nonfactor goods and services

M = Imports of nonfactor goods and services

D = Total disbursed external debt (public and private)

Using the above initial values, the growth rate of GNP for year t_1 is derived in the following way:

(6) $\dot{Y} = \rho\tau\dot{K}$

where the ($\dot{}$) refers to the time derivations of the variable interpreted for empirical purposes as the annual change, and

ρ = the marginal product of capital

τ = embodied rate of technical change

Given a fixed depreciation rate for capital, δ,

(7) $\dot{K} = (I - \delta K)$

(6') $\dot{Y} = \rho\tau(I - \delta K)$.

Because country-specific measures of the capital stock (K) are not readily available, the depreciation rate is taken as proportionate to the rate of capital formation.

(8) $\delta = \alpha(I/K)$

Furthermore, to allow country-specific variation in the depreciation rate depending upon the rate of (annual) capital formation, the proportionality factor (α) is taken to be a linear function of the investment rate:

$$(9) \qquad \alpha = c_0 + c(I/K)$$

This gives a modified growth equation:

$$(6'') \qquad \dot{Y} = (\rho\tau - \alpha)I$$

$$(10) \qquad \dot{y} = (\rho\tau - \alpha)(I/Y)$$

where $\dot{y} = \dot{Y}/Y$. (I/Y) has an initial lagged value of historical data.

Unconstrained simulations of imports (M) and exports (X) are derived by multiplying elasticity estimates (m and c, respectively) by growth estimates as follows:

$$(11) \quad \dot{m} = \mu\dot{y}$$

$$(12) \quad \dot{x} = \psi\dot{y}_1$$

where $\dot{y}_1$ is an assumed growth rate of GNP in the industrial countries.

Financial constraints enter the model in two ways: By reducing investment and by reducing the growth rate of income. An adjustment requirement or unpaid residual is calculated by computing the amount by which net exports differ from required interest payments. This residual is positive if interest payments cannot be made entirely out of a net trade surplus and zero otherwise. Thus,

$$(13) \quad A(t) = M(t) - X(t) + rD(t-1) \text{ if "unpaid residual" } > 0$$
$$= 0 \text{ otherwise}$$

(rD(t-1) refers to interest owed on external debt outstanding).

In the base scenario, in which no external financing is forthcoming, we assumed that adjustments in capital formation, trade, and growth must be made so that A(t) goes to zero in the first year of the simulation. In the partial adjustment cases, we assumed that only a fraction of this adjustment needs to be undertaken in any year. These changes are incorporated into the model through equations (10), (11), and (12). Thus,

$$(14) \quad (I^*/Y) = (1 - a\Upsilon)(I/Y)$$

where (I^*/Y) is the adjusted rate of investment, $a = A(t)/Y(t)$, and Υ is the proportion of the "unpaid residual" which is deferred. Changes in (I^*/Y) will modify y and thus m.

By varying the adjustment rate Υ between zero and one, we simulate an alternative financial constraint scenario. The case of $\Upsilon = 0$ (the "full adjustment" scenario) corresponds to the "trade-constrained" phase described in (1). The case of $\Upsilon = 1$ corresponds to the "savings-constrained" phase.

UNITED STATES DEPARTMENT OF AGRICULTURE
ECONOMIC RESEARCH SERVICE
1301 NEW YORK AVENUE, NW.
WASHINGTON, D. C. 20005-4788